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SATURDAY, MARCH 30, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Diuresis ureosa.—The peculiar feature in this form of urinary disease is, the excess of a natural principle of urea, and which sometimes exists in such superabundance as can scarcely be well accounted for. It often happens that an excess of urea is to be detected in the urine from mere accidental circumstances, as, for instance, in certain febrile states, and inflammatory diseases. But in such cases the excess seems to be only relative, not absolute. These conditions reduce the watery portion of the urine, while the solid matters are natural, and consequently an excess of urea is indicated on examination by tests. But in the affection we are about to consider, not only is the urea in excess, but this is associated with distinct diuresis. Indeed, the general symptoms so completely resemble those of *diabetes mellitus*, the affection we have next to consider, that there can be no doubt the former has often been mistaken for the latter disease.

The general symptoms of this disease are, thirst, increased appetite, and a harsh, dry, or unperspirable state of skin. These symptoms, however, do not in general prevail to such an extent as to be very remarkable, except in extreme cases, or when the urea alternates with that which characterizes the next form, namely, sugar; as we shall soon have occasion to illustrate. In all the cases which I have seen there has been a frequent and very urgent, indeed an irresistible desire of passing the urine, and this propensity exists both night and day. The frequent desire to evacuate the bladder leads to the confounding this disease with others in which this latter symptom is a predominant character. Thus I have known instances in which this affection is regarded and treated as stone in the bladder, at least so far as sounding, &c., and for other morbid affections of the bladder.

The frequent desire of passing the urine is often accompanied with pains in the loins, sometimes of a subacute, sometimes of a dull character; sometimes a mere sense of weight, and in some cases there is no feeling at all of this description. There is generally some irritation about the neck of the bladder, and this extends itself along the whole course of the urethra, giving rise to a sense of smarting or itching, short of pain, during the passage of the urine.

The vital functions seem to suffer but little at the beginning of this complaint; hence we find the pulse and respiration but little involved. With respect to the animal functions, a degree of languor and a feeling of lassitude frequently prevail; and there is often some degree of listlessness, so that the patient, once at rest, will not be readily aroused or easily excited to vigorous exertion; but once excited, he seems capable of the ordinary activity. The stomach and bowels are not much distended; however, there is, if any thing, a tendency to tardiness of action in evacuating the contents of the alimentary canal. The tongue is, for the most part, clean and moist.

There is, for the most part, an increased flow of urine, although the quantity passed at once is often greatly below the natural quantity, so that the diuresis rather de-

pends upon extraordinary frequency of evacuation than upon an increased flow at any one time. Yet I have frequently seen instances in which not only the frequent desire to evacuate the bladder was urgent, but a considerable quantity voided at each call, so that in such instances from ten to twenty pints of urine have been voided in the twenty-four hours. Such is a general view of the history of this affection.

Causes.—With respect to the causes, they are unquestionably very varied in their nature. The predisposing may be considered all which tend to debilitate the system generally, and the urinary organs in particular. Various abuses of the constitution, and especially an indulgence in a particular abuse of the generative functions, may, and frequently do, give rise to this form of disease. Dr. Prout remarks, "In most of the cases of this disease which have fallen under my own immediate observation, the subjects have been middle-aged men of thin and spare habits, with a sort of hollow-eyed anxiety of expression in their countenance; free from gout and constitutional disease in general, and as far as could be ascertained, from any organic defect in the urinary organs. In every instance they had been induced to apply for medical advice, not so much from the pain as from the inconvenience of the disease, and the dread of its ending in something worse; and what may be worth remarking in several instances, confessed that they had been addicted to *masturbation* from early youth*." These are features which subsequent experience have most amply confirmed. I myself had an opportunity of seeing this peculiar expression of countenance in a gentleman residing in Essex, and who was seen subsequently by Dr. Prout. The eyes were sunk, as it were, in the orbits, and indeed gave a most peculiar expression to the whole countenance.

Dr. Prout does not mention females as the subjects of this disease; but I have seen several instances of this affection in women; and in two cases of diabetes in women, from the history I have not the slightest doubt that an excess of urea in the urine must have preceded, and subsequently alternated with sugar, previous to the fixed and invariable presence of the latter principle.

Immediate cause.—There is little to be said upon this head; it must be evident that urea in excess in the urine is the immediate source of the disease, although we shall presently have occasion to shew that an excess of urea may be present, without the presence of the disease we are attempting to characterize; and the great peculiarity of which is, its almost certain termination in diabetes, if not controlled. With respect to the morbid anatomy there is nothing to offer. The disease does not of itself prove fatal, and therefore we do not have opportunities of examining the conditions of the urinary organs till other forms of disease have sepervened, and which put a period to existence. It may, however, be stated, that there unquestionably seems to be in many instances a peculiar irritability of the bladder, and, indeed, in not a few, the prostate gland seems thickened, indurated, or otherwise morbidly affected.

Diagnosis.—This, perhaps, may seem almost a superfluous consideration, because the only thing to be determined would, at the first, appear to be the excess of urea. But urea appears in excess, as has been already stated, under a great variety of even dissimilar circumstances. Therefore it will be necessary, an excess of urea existing, to determine whether this is connected with the disease under our special consideration.

First, therefore, we have to determine the presence of urea in excess; and this is readily done by the addition of nitric acid. The best method of proceeding is to pour a little of the urine to be examined into a glass capsule—a watch glass answers every purpose—and with a fine-pointed tube, blown with a bulb in the centre, take up a quantity of nitric acid, and allow this to flow slowly, in the manner you now see me do, along the concavity of the glass. The acid, as you observe, from its superior gravity seeks the bottom, and floats the urine upon its surface, and in a time proportioned to the excess, crystallization commences. In the present instance it will take from twenty minutes to half an hour; but there are instances in which crystals form within almost as many seconds, and the time within which crystallization takes place is a tolerably accurate though not unerring index of the excess. The urea, on crystallizing, assumes a great variety of appearances: sometimes the crystals appear silky or pearly, and almost colourless; in other cases they are more deeply coloured, and present an irregularly radiated or confused mass; in some they present a conical appearance, the base presenting a convex circular margin, the apex presenting to the centre of the glass: in a word, they closely resemble the papillæ of the kidneys, and, indeed, the whole figure of the tubular structure of the kidneys. In the ten specimens which I here present you perceive great variety in the mode of crystallization, and the differences are to be recognized by observation rather than by

* On the Urinary Organs, p. 53.

any verbal descriptions, which, in relation to sensible properties, are very often incomprehensible and unsatisfactory.

To determine, then, the peculiarity of excess which we are considering, we must connect this with the other phenomena. In the disease in question there is for the most part a desire of frequently emptying the bladder. This occurs, although the quantity of urine voided does not amount even to the quantity voided in a state of health. The case to which I have already alluded, and in which I had the assistance of Dr. Prout, was thus afflicted. The calls were so frequent and so urgent, that the gentleman told me that in a journey of about eight or ten miles, which he had frequently to perform, he was often obliged to get out of his chaise eight or ten times, or even oftener, to satisfy the urgency of the call to evacuate the bladder. The sensible qualities of the urine, too, are often indicative of the nature of the affection. The urine, I think, for the most part is of a bright red colour, somewhat like ale, and, indeed, as far as my experience goes, ale affords the best example of the colour; but under certain circumstances, particularly a principal meal, especially where animal food has been used, the colour is darker, and resembles porter diluted with water in various proportions *. The taste is usually saline and bitter, and the smell aromatic, and sometimes resinous. The specific gravity is alway high: it sometimes happens that urine of low specific gravity, viz. 1008-1013, indicate, with nitric acid, an excess of urea; but these cases are of a very different character, as we shall shew hereafter. In the present affection, however, the specific gravity varies between 1020 and 1027: it is seldom much higher or lower, unless from the agency of foreign causes—medical treatment, dilution, diet, &c. You here see a specimen of the urine of a person who I strongly suspect labours under this affection. In this case the specific gravity was 1024·811; when I last saw the case, about three days ago, the urine, which I then examined, was 1024·95; and if you examine the history of the cases published, you will find the specific gravity to range to somewhat between 1020 and 1030; but when it arrives at the latter degree, I think, if you examine closely and attentively, you will find either the co-existence of sugar in small quantity, or the alternation of these principles with some modification of the sensible characters—for instance, of the ale or porter colour; the urine will be either of a pale straw or a sort of *greenish* hue, as will be hereafter described. What we have just stated will be quite sufficient in most cases to detect the nature of this affection; an object which, if of no other advantage, is useful to prevent us falling into errors, and deceiving others, by naming diseases of a very different complexion *diabetes*, or even considering them as the first step to this affection.

Pathology.—The difficulty of explaining, at least satisfactorily explaining, the source of urea in the urine, renders the pathology of the disease under investigation no less difficult. Indeed, could we even explain the appearance of urea in the healthy ratio, yet we should still have great difficulty in explaining the increase, especially as a precursor of diabetes. Why an excess of urea, a principle which contains so much nitrogen in its composition, should be in any way connected with, or influenced by, the appearance of a principle which contains no nitrogen whatever, is certainly one of the most extraordinary problems, as well as one the most difficult of solution, in pathology. I fear, therefore, it will be necessary to pass over this question without entering deeper into the subject than we have already done. But still there are some other points that we may readily explain, and which, as presenting in part diagnostic characters, it is as well to understand.

It has been already stated that an irresistible propensity to pass the urine coexists with this affection. Now, upon what does this propensity depend? Not upon an excessive and rapidly supervening fulness of the bladder, because the quantity of urine voided at each time often falls short of the natural proportion; and in the case which I have already referred to, and some others of a similar description which have since come under my observation, the urine voided at each call fell very much short of the natural quantity. This is sometimes so much the case as to have given rise to the idea of stone in the bladder, ischuria, &c. The gentleman to whom I have alluded frequently would not pass one or two ounces at each micturition, and sometimes even not more than a table-spoonful. Neither does the urgency appear to depend upon any acrimony of the urine itself; for the presence of urea in excess does not appear of itself to produce any sense or consequence of acridity, for in other instances urine loaded with urea has been retained in the bladder without any inconveniense. Therefore we must look to the bladder itself, or to some morbid condition of it, for an explanation of the tendency to preternatural uresis. There can be little doubt of an extremely irritable state of the bladder in such cases, and this condition is the source or cause of the unnatural propensity. In such cases,

* Prout on the Urinary Organs, p 32.

too, we often find a diseased state of the prostate, and almost invariably the presence of hæmorrhoids. Now these are almost, indeed quite sufficient of themselves to account for an irritable state of bladder; and the abundant mucous cloud which in time is deposited by such urine, proves almost unequivocally the excited or irritable state of the mucous lining of the bladder and urethra. In many cases, too, if this cloud be examined by the microscope, the squamulæ already noticed are found in excessive quantity, and which you may here observe on looking through this microscope.

When, too, we reflect on the causes, we shall find that many of them operate in such a manner. The patient at the commencement is harassed by the incessant calls to evacuate his bladder; he imagines stricture, stone, and a number of other such affections: hence he subjects himself to the introduction of catheters, bougies, sounds, &c., and thus often through imprudence brings on many of the evils the presence of which he is merely attempting to ascertain. Perhaps there is no cause which more speedily or more effectually gives rise to urinary irritation than maltreated gonorrhœa. The irritation arising from the application of the various stimulating and astringent agents, so frequently resorted to for the speedy suppression of this affection, leads to evils and consequences the connexion of which are not perceived, because they occur at distant and remote periods—when the origin, perhaps, has been wholly forgotten. Thus cubebs, turpentine, cantharides, and the whole host of astringents employed by the impatient, not only disappoint expectation, but often lay the foundation of severe and obstinate — often fatal — diseases. From their irritation, however, we can easily conceive a permanent irritability of the urinary system generated, and which, though it may lie dormant during the vigour of youth, will yet be transmitted to a period of life when it will shew itself with increased and even irresistible violence, sewing the seeds of the most distressing and incurable maladies, and which the unhappy sufferer at length discovers with the melancholy certainty that he is doomed in future to a miserable existence, and to endure all the calamities of the most obdurate and incurable diseases. But much as has been effected in the development and elucidation of these affections, there is still ample room left for investigation, and we may apply here with great truth the words of Seneca:— "Multum egerunt qui ante nos fuerunt, sed non peregerunt, multum adhuc restat operis, multumque restabit, nec ulli post mille annos nato præcludetur occasio aliquid adjucendi."

Prognosis. — An excess of urea, as we shall hereafter see, is associated with a number of affections differing very much in their character; but the disease under consideration has this peculiarity, that it is for the most part the precursor of diabetes. Diabetes is now pretty generally admitted to be an incurable disease; and if the antecedent were equally intractable and incurable, we could hold out but a very melancholy prospect. However, we have a very consoling reflection in the observations of Dr. Prout, who states that this complaint has often been mistaken for diabetes; "but it differs," he says, "from diabetes, in being a curable disease, or at least, by care and attention, it can be so far subdued as to be rendered little troublesome." But notwithstanding the high authority of Dr. Prout, I should recommend a cautious prognosis; not that I entertain the slightest doubt of the correctness of the Doctor's statement; but to insure so satisfactory a result requires many and great sacrifices, and which, by those who have indulged, are looked upon not only as severe, but unnecessary sacrifices, and which, if we hold out a favourable prospect upon too easy terms, few will endure. We may lay it down, therefore, that by great care and attention, especially to diet and regimen, and a judicious treatment, the disease, if it have originated in accidental causes, may be wholly eradicated; but if there be an hereditary tendency to diabetes, we may consider ourselves but too fortunate if we can keep the disease in check, and prevent the diabetic diathesis being irremediably established.

Treatment.—There is so little known as to the manner in which the urinary functions are performed, that we can infer but little certain of the method of correcting their errors. We know that urea is formed in the urine, but how it gets there — how it is generated—as yet we know but little. It has been found in the blood, but still this does not remove our difficulties, because it has not been found uniformly in the blood. If the blood invariably contained urea, we should have little difficulty in understanding the operation of the kidneys, viz. that the urea passed out of the system through these organs. But as this principle only appears under a suspension of the renal functions, we are at a loss to understand how urea appears abundantly in the one, and leaves not a trace of its existence in the other. All perhaps that we can legitimately infer, therefore, is that the loss of the kidneys leaves the circulating mass

in a condition favourable to the generation of urea, and that, too, in sufficient quantity to appear uniformly diffused throughout the blood. Consequently it cannot be wondered at that a disease, the nature of which is involved in so much obscurity, does not, in the present state of our knowledge, admit of any thing like a method of cure founded upon philosophical principles. There is one circumstance, however, that we should keep in view, namely, the tendency to run into or terminate in diabetes. Dr. Prout, who first suggested these views, seems to have been since confirmed in the reality of his conjecture. "I have had no opportunity," he says, "of ascertaining the progress of these diseases; but think it extremely probable that, if permitted to proceed, some of them will terminate in diabetes, or in a deposition of the earthy phosphates*." Therefore the great object will be to prevent this affection from running into diabetes, which is an incurable disease. An object of primary importance is, therefore, to correct all irregularity in the functions of the digestive system, and to improve the general health and strength. After what has been already stated, it would be quite superfluous to enter a second time upon these principles of therapeutics. The digestive functions having been properly regulated, our next object should be to control the errors in the urinary excretion. Astringents, therefore, naturally present themselves as indicated in these circumstances.

Of the astringent remedies, opium certainly has obtained the highest reputation. "In most of the cases, however," says Prout, "which have hitherto fallen under my own observation or knowledge, sedatives, and particularly opium, have been the most efficient remedies; and by the judicious use of these, combined with other appropriate medicines, it is probable that in most instances the disease can be suspended, if not removed altogether†." Opium may be given under any of the usual forms. The pilula saponis cum opio of the London Pharmacopœia is a very excellent preparation, and often well adapted for exhibition in cases of this nature. Of this preparation five grains may be given once, twice, thrice, or even four times in the day, according to the urgencies of the case. It has, however, been stated, that the functions of the skin are often suppressed; and in such cases those preparations which more effectually excite the action of this organ, prove equally, if not more effectual. Hence the compound powder of ipecacuanha presents a very effectual preparation of opium. In one of the cases related by Dr. Prout, in consequence of some biliary derangements, after alterative doses of mercury with purgatives, the urinary part of the complaint gave way to a bitter infusion, containing potash and opium. The amendment was indicated by the reduced specific gravity of the urine from 1023·7 to 1015·5, and in the quantity of urea being greatly diminished. The disease was never completely eradicated, and used to return at intervals, especially during the time when, from cold, the action of the skin was interrupted. When, however, it returned, it was generally relieved by the use of soda-water and tincture of opium, in the proportion of ten or twelve drops of the latter to a glass of the former*. However, the Doctor also states, that although the urine in this case had much improved, it never became quite natural, either in appearance or in the proportion of urea; and I believe, generally speaking, this will be as much good as can be generally expected. Indeed, under every mode of treatment, it mostly happens that the disease returns with its usual violence, at intervals, owing probably to the impossibility of regulating life upon fixed and inviolate rules.

In the case which I have alluded to, although under the treatment adopted, the gentleman's health, and even the complaint, were considerably ameliorated, yet the disease returned, with all its pristine violence, at intervals; although, by an unusual degree of strictness, the symptoms again improved, and the patient enjoyed a tolerable degree of immunity. Dr. Prout ordered for this gentleman a combination of the compound powder of ipecacuanha with the acetic extract of colchycum, in the proportion of one drachm of the former to one scruple of the latter, the whole divided into twenty pills, of which the patient took one twice in the twenty-four hours. The disease gave way very much under this plan of treatment with castor oil, as he was subject to hæmorrhoids, to keep the bowels open. He could now perform the journey from his own residence to Chelmsford, about ten or twelve miles, with but one or two calls to evacuate the bladder; whereas, previously, from twelve to fourteen or sixteen were the average number.

Subsequently, however, the ipecacuanha and opium were in some degree modified, the sulphate of morphia having been substituted for the opium, in the Dover's powder. About a grain of the sulphate was accurately mixed and rubbed with an equal quantity of ipecacuanha and eight

* On the Urinary Organs, p. 54.
† Ibid.

* On the Urinary Organs, p. 56,

grains of sulphate of potass and the extract of colchicum, as before stated. If this should not readily form a pill mass, a little extract of hyoscyamus will give the requisite consistence.

I have, in several instances of this sort which have come under observation, directed a combination of kino and opium, and certainly with a very considerable reduction of the urea. The very last case which came before me was treated with kino and opium, and a mixture containing tincture of catechu and wine of colchicum, and certainly with very beneficial results; but the good obtained was in some measure marred by the constipation of bowels which the combination of so many powerful astringents produced. When the prostate gland seems affected, leeches and the various other means of relieving the local affection should be resorted to, and they are already too well known to be specifically alluded to here.

It has been already observed that there exists, in many cases, a peculiar irritability of bladder, and which frequently urges to almost incessant evacuations of the bladders. This is attended with very great inconvenience, and, indeed, is to the patient the only distressing part of his complaint. Means, therefore, of reducing or of counteracting the urgency of these calls, are matter of great moment. They are found to be much aggravated by every thing which increases the urine or renders it more stimulating: hence by certain liquors and green tea. The state of the skin, too, —for instance, constriction from exposure to a cool atmosphere, is found to augment the urinary discharge. Hence the former should be avoided, and the warmth of the latter kept up by sufficient clothing, especially of flannel. To relieve the bladder, some bland fluid should be given; and I found nothing so effectual as the mistura amygdalæ, which may be given in doses of one or two ounces, three or four times in the day. By these means you will find, unless in very obstinate cases, that the symptoms will abate, and the urine improve and become more natural. Alteratives, if indicated, are not objectionable, but in most cases in which there is an excess of urea, mercury in large quantity is injurious, or at least the propriety of the practice is questionable. These means should be persevered in till the requisite improvement has been obtained, and even the liability to a return of all the most urgent symptoms naturally suggests the propriety of not wholly laying aside these measures, but that we should occasionally resort to them to prevent relapse.

When the urinary functions have been properly restored, then, tonics will be advisable, for the purpose of strengthening the constitution generally. In some cases quinine has answered very well; but in general the minerals, especially iron—as the phosphate, sesquichloride, &c. answer; but these will be considered more at length when we come to diabetes.

CLINICAL LECTURES,

Delivered in Jervis-Street Hospital, Dublin,

By Dr. Corrigan.

Session of 1838-9.

Paralysis of the first and second Branches of the Sensific Root of the Fifth pair of Nerves; Case of Goulding.—Anatomy of the Fifth pair of Nerves.—Application of it to Diagnosis of the Case.—Paralysis of the Portio Dura.—Paralysis of the third Branch of Fifth. — Paralysis of Fifth and Seventh combined.—Classification of Paralytic Affections of the Face.—Treatment and Recovery of Goulding.

Case.—Catherine Goulding, æt. 23, was admitted into hospital 24th October, 1838. Six months before this date, she fell on her temple against an iron grate, and at the time felt a very acute pain in the part, with numbness in the left side of the head and face. The pain having continued, and her sight in the left eye having grown dim, she took some purgative medicine, and after this she continued pretty well until about two months before admission, when the pain of the temple returned, followed by almost total loss of vision in left eye. On admission, almost total loss of sight in left eye, with a very sluggish iris, a clear and a dilated pupil. She suffered from thirst, loss of appetite, and debility. Her bowels were confined; her tongue was white. The treatment adopted was leeching the temples, blisters to the back of the neck, and murcury pushed to active salivation. These measures greatly alleviated her symptoms, but on the 8th November there was a return of the pain in the temple, with dimness of vision, and followed on the succeeding days by tingling and numbness in the left side of the head, and extending down the face. A blister to the side of the head alleviated these symptoms, and the sight of the left eye continued to improve, but the numbness of face increased; and on the 10th December the following is the report of her state:—

She is slightly salivated (she had been using gr. iij. of pilula hydrargyri ter in die). Over the left side of the scalp and in the ear there is undiminished sensibility, as also in all the portion of the cheek, which is below a line drawn from

the angle of the mouth to the lobe of the ear. But in the left half of the forehead, the left eyebrow, around the left eye, and in the anterior part of the left cheek, and in the left half of the nose within and without, and in the left half of the upper lip, there is total loss of sensation; so that in any of those parts the skin may be pricked with a needle without her being conscious of it. In the left half of the upper gum there is also total loss of sensation. In the lower gum the sensation is duller than natural. There is no loss of muscular power in the jaw or eyelid, nor any appearance of paralysis either when the face is at rest or when she speaks. In the left temple there was a circumscribed spot, which was very painful on pressure, and which, when pressed upon, gave her a shooting pain down the cheek. Over this spot she was leeched every second day. Her sight improved, the pupil became more active, but the other symptoms remained as before, with the addition that on the 21st December she complained of inability to move the jaw freely on the left side. There is, however, no want of power in the left eyelid. The repeated leeching has diminished the soreness of the temple and improved the sight very much, and she is now rubbing the scalp with tartarized antimony and mercurial ointment, and taking internally 10 grs. of hyd. c. magnesia ter in die.

This case is a valuable addition to our knowledge of the affections of the nerves of the face, which, until late years, was little better than a web of confusion. To Sir Charles Bell we owe the first clue that has led us out of the labyrinth; and the case before us, of Goulding, deserves a place among those to which we may refer as establishing the sureness of the foundation on which our opinions of the functions of the nerves of the face now rest.

To understand the nature of Goulding's case, it is necessary to recal your attention to the anatomy of the fifth pair of nerves. There is in this case total loss of sensibility of the left side of the forehead, of the left side of the nose, of the left side of the palate, and of the gum of the left half of the upper-jaw, and of the upper-jaw, and of the cheek, as low as the angle of the mouth; while, below a line extending from the angle of the mouth to the lobe of the ear on the same cheek, the sensibility is perfect. There is not the slightest loss of muscular power in any part of the cheek; she has full power over the eyelid, angle of the mouth, buccinator muscles, &c. whether in chewing, sneezing, laughing, &c.

The anatomy of the fifth pair of nerves will now explain to us this case, which is one of those beautiful instances in which anatomy, physiology, and pathology, mutually throw light on each other. The fifth pair of nerves consist, you will recollect, of two roots; one the sensitive—the other the motor root. The sensitive root, after having formed upon it the Casserian ganglion within the skull, sends off from this ganglion three branches; the first the ophthalmic branch, which is distributed to the parts within the orbit, and which sends off the supra-orbital branches to the skin and integuments of the forehead, with a brush of smaller twigs which are distributed over the inner canthus of the eye and the root of the nose, while the nassal branch is spread over the alæ and and tip of the nose. The second branch, the superior maxillary, given off from the Casserian ganglion, leaves the skull through the foramen rotundum, and sends along the infra-orbital canal, in the floor of the orbit—the infra-orbital branch, which passing out to the cheek through the infra orbital foramen, is then distributed to the anterior part of the cheek to the ala nasi, and twigs of it descend as low as the external angle of the mouth; where they meet those coming up from the foramen mentale. Other twigs of this second branch, the superior maxillary, are distributed to the palate, the gum of the upper jaw, and the interior of the nose.

I have now to turn your attention to the third branch of this sensitive root of the fifth. This branch, setting out also from the Casserian ganglion, leaves the skull by the foramen ovale, in company with the motor root of the fifth pair. This motor root, which has lain in the skull behind the Casserian ganglion, has as yet formed no junction with any portion of the sensific root; but having passed out through the foramen ovale, in company with the third branch, it then, in the pterygoid fossa, becomes intimately interwoven with this third branch of the sensific root, and the compound nerve, thus formed, is the inferior maxillary nerve. It is obvious that, according to this account of the anatomy of the fifth pair of nerves, the ophthalmic and superior maxillary nerves being given off by the sensific root of the fifth before any connexion has as yet taken place between the sensific root and the motor root, the ophthalmic and superior maxillary nerves must be merely sensific nerves; and that in the event of disease producing paralysis of these nerves, the effect on the parts supplied by them ought to be loss of sensibility alone; and that, as these nerves cannot confer motive power, muscular action should not be disturbed by paralysis of them; and thus exactly we have it in the case before us. There is loss of sensibility in all the parts

of the face and interior of the mouth, supplied by those branches, but no loss of muscular power. Thus anatomy and physiology explain to us those symptoms which otherwise would be inexplicable, and again, pathology, more beautifully than a thousand experiments, confirms the accuracy of our anatomical observations, and the truth our physiology of this nerve.

Sensation, we have seen, is perfect along the lower jaw below a line drawn from the angle of the mouth towards the lobe of the ear. The parts below this line, the skin of the cheek, the chin, and the gum of the lower jaw, are supplied by the third branch of the fifth, namely, the inferior maxillary nerve. Now, does the preservation of sensibility in the lower part of the cheek, while it is lost in the upper part—or, in other words, does the continuance of function in the third branch of the sensitive root of the fifth, while it is lost in the first and second branch, lead to any practical result in diagnosis and prognosis? With the light of anatomy it does, and to a very important one. It tells us that the disease which has deprived the first and second branches of the fifth of their function of sensibility is not disease of the brain, nor, probably, has it its seat within the cavity of the skull; for if the diseased action attacked the nerve previously to its forming the Casserian ganglion from which all three branches take their origin, then it would be nearly impossible that the function of the third or inferior maxillary branch should not have been equally destroyed with the functions of the other two. Were the disease within the skull, it is also most probable that the motor root of the fifth, which in part of its course lies in very close relation to the sensific root, should suffer equally. But as the motor trunk and the third branch of the sensific trunk are not injured, we are justified in concluding that the cause of the paralysis of sensibility of the first and second branches has its seat external to the cavity of the skull, and the diagnosis thus made leads of course to the more favourable prognosis. Thus, anatomy and physiology here lead us both to diagnosis and prognosis. With this instance before you, to shew you the value of the observation, let me entreat of you never to lay aside anatomy or physiology in studying practical medicine. How different now is our interest in this case, and how superior our knowledge of it, when we have thus taught ourselves that even in disease the symptoms which present themselves are not the result of mere chance, but are in strict accordance with the laws of healthy action! If there were no other result from this analysis of the symptoms of this case than the attractive investigation of some of the functions of the nervous system, and the conformation of our physiological knowledge, this alone should make us study the symptoms with enthusiastic interest; but when we find that on this analysis depends our knowledge of the nature of the disease, its study then becomes a duty. There is, I am sorry to say, a growing tendency to substitute what is called observation at the bed side for anatomical and physiological investigations of structure and symptoms. Such a doctrine is very acceptable to the ignorant empiric and the indolent student; but to expect to attain sound knowledge by such a course, would be as reasonable as it would be in a mechanist to expect that he could ever attain a knowledge of the derangements of a machine, without bringing to his assistance a knowledge of its structure and its powers.

If we now turn our attention to the inferior maxillary nerve, the third branch of the sixth, and to the portio dura of the seventh, we shall find in the physiology of these nerves an explanation of some curious forms of nervous affections of the face, and to which we find almost nothing analogous in any other part of the body.

The first is that in which the seventh or portio dura alone is paralyzed.

I saw a lady some time since, whose features were undisturbed and free from distortion when at rest, but when she laughed or smiled, the muscles on the right side alone acted, while the left side of the face remained perfectly passive, thus giving to the countenance the hideous expression of half of a living and of a dead face being joined together. In such a case as this the paralysis is confined to the seventh nerve, the motor branch of the fifth being unaffected. While the face is at rest, the motor branches of the fifth at each side neutralize each other, and there is no distortion; but on the seventh or portio dura being called into action as a nerve of expression, the nerve of one side alone acts, and thus this singular form of paralysis is produced.

In contrast with this may be placed a case of paralysis of the third branch of the fifth, the inferior maxillary nerve. The case is from Sir C. Bell's work on the Nervous System.

A man affected with hemiplegia was paralytic of the right side of the face, which was also insensible on being pricked with a needle.

When at rest, the right side of the mouth and the right cheek hung down, and the saliva constantly flowed from it. But when he was made to sneeze, to laugh, or to whistle, the distortion disappeared,

and both sides of the face acted equally. Thus these cases are contrasted with one another. In paralysis of the portio dura alone, *there is no paralysis when the muscles of the face are at rest*, but it becomes most disagreeably evident by distortion on giving expression to the face. *In paralysis of the third branch of the fifth there is paralysis of the face when at rest;* but when a respiratory expression calls the seventh into action, the paralysis for the time being disappears.

The most common form of paralysis of the face is when both the third branch of the fifth and the portio dura are simultaneously affected, so that there is paralysis both when the features of the face are at rest, and in the expression of laughing, sneezing, &c. Such is the following case:—

Michael Keefe, admitted into this hospital December 3. About ten days before, he felt his upper lip swelled, and next day perceived that, in attempting to masticate, he could not turn the morsel in the right side of his mouth. On admission his mouth was drawn to the left side; he was unable to close the eyelid of the right eye; he could not whistle, and when he laughed the left side of the face alone acted. In this case both the seventh and the third branch of the fifth of the right side were paralysed, for there was in the case a combination of the symptoms of the two former cases. There was inability to masticate, and there was distortion of the face when at rest, dependent on paralysis of the third branch of the fifth; and there was also distortion of the face in expression, indicating paralysis of the portio dura.

We have thus the following form of local paralysis of the face:—

1st. Paralysis of sensibility, as in the case now in hospital, the muscular power being unaffected—dependent on disease of first and second branch of the sensific root of the fifth pair of nerves.

2d. Paralysis, not visible when the features are at rest, but most strongly marked when any respiratory expression, such as sneezing, laughing, &c. is attempted—dependent on disease of portio dura.

3d. Paralysis, persistent when the face is at rest, but temporarily suspended when any respiratory expression is attempted—dependent on disease of the third, or compound moto-sensific branch of the fifth.

4th. Paralysis of the face both at rest and in motion, in which both the portio dura and third branch of the fifth are implicated.

For the experiments and some of the cases on which I have grounded these observations, I must refer you to Sir Charles Bell's work on the Nerves. There is, however, in some parts of that work an obscurity, and occasionally an apparent contradiction, which may render its perusal difficult. You will obviate the difficulty by consulting Dr. O'Beirne's analytical correction of Sir Charles Bell's work. It is published as an appendix to Dr. O'Beirne's work on Defæcation, and it will well repay you for a perusal. To return to our case in hospital. I have already given my reasons, founded on the immunity of the inferior maxillary nerve, for thinking that in this case the disease is not within the cavity of the cranium, or at least between the Casserian ganglion and the origin of the nerve. It is probable that the injury which this patient received produced periostitis of a subacute or chronic form, and that this, creeping along the temporal surface of the sphenoid bone, has also spread through the spheno-maxillary fissure to the lining membrane of the orbit, and has then involved the first and second branches of the fifth. This view is strengthened by the circumstance of there being still a small space in the upper part of the temporal hollow which is painful under pressure. I shall therefore, for some time longer, continue the same line of treatment under which he at present is, viz. repeated local blood-letting and blistering, and the exhibition of a mild course of mercury. The head symptoms, the vertigo, &c. have ceased, the motion of the pupil has become natural, and the sight is much improved, so that we have to contend with only the local tenderness in the temple, and the loss of sensibility of the first and second branches of the fifth.

P.S.—Since the above was delivered, numbness, accompanied with loss of power, began to extend to the lower jaw, shewing that the diseased action was beginning to implicate the third, or compound branch of the fifth. The whole head was then rubbed over with antimoniated mercurial ointment and iodine; the amendment was rapid, and she soon after left the hospital with scarcely a trace of the disease.

CLINICAL OBSERVATIONS ON FEVER.

By Charles Lendrick, M.D. T.C.D.

Queen's Professor of the Practice of Medicine in the School of Physic in Ireland.

Fever was described in the synopsis of my course of lectures on the *Practice of Medicine*, published in the year 1833, as a disease dependent on "*morbid actions* NOT

referable to any particular structure or system." In thus denying the essential connexion of fever with organic lesions, or morbid changes of the fluids, I did not, nor do I now, claim originality. In my opinion, the priority as to time, in alleging a fact, is but a poor test of professional knowledge; and the palm ought to be assigned, not to him who (perhaps accidentally) stumbled on the truth in the first instance, but to those who, in opposition to fashionable theories and received doctrines, steadily upheld what proved to be established on the most solid grounds. In making this remark, I wish to be understood as referring to the expressed opinions of able and experienced practitioners in Dublin, who, for probably half a century, have, through evil report and good report, denied the hypotheses of both solidists and fluidists, as explaining the source of *fever*.

I am not an advocate for *authority* in medicine; yet I confess that when, many years ago, I considered the extensive opportunities that Dublin affords to the practitioner, in fever—the enormous prevalence of that disease in our metropolis—the excellence of its principal institution (in Cork Street) for the reception of fever patients—and the consummate skill and experience of such men as Quin, Purcell, Harvey, Plunkett, Perceval, &c., I felt, even at a very early period of my career as a medical man, an inclination to doubt the theories so imposingly put forward by authors whose opportunities were so much inferior to those of the distinguished practitioners I have just mentioned, and which, in my opinion, were the less deserving of confidence, from the overweening confidence with which they were urged.

On perusing, several years since, Travers's work on Constitutional Irritation, I was struck by the coincidence between his statements and my own experience. I asked myself the question repeatedly—"Did I not know all this before?" It seemed to me that I had learned nothing new, as is the case with most persons *after* they have become acquainted with the discoveries of others. Medical discovery, however, generally merely renders clear what was formerly obscure; and we are too apt to confound the twilight of our own recollections with the clear elucidation of the subject by others.

When I had methodized my thoughts, after a perusal of Travers's work, and its comparison with (or rather confirmation by) what I had observed, it seemed to me that there was no important distinction (contagion excepted) between fever and what he termed *constitutional irritation*. A fracture—a contusion—a wound—any injury, however slight, appeared to be capable of producing all the phenomena of *fever*. Delirium—coma—convulsions—a surface hot, cold, or flooded by perspiration—excessive and depraved secretions, or a stoppage of these secretions—every imaginable variation in the state of the human economy was capable of being produced by the most trifling irritation of the *nervous system*, under peculiar circumstances.

Here is an important point established in our analysis. A similarity of effect goes a certain way in proving a similarity of cause. The identity, however, of fever with constitutional irritation admits of further proof.

1st. In both diseases the influence of an *external* cause is requisite to produce the effect. In that of constitutional irritation, the impression of a local irritant on the nervous system is obvious, from the effect of the external injury. In the case of fever, the nature of the influence of a cause external to the system is much more obscure; but the necessity of such a cause in order to produce the usual effect is undeniable. What are called the "accessory" causes of fever—cold, mental anxiety, intemperance, &c. are quite inadequate *in themselves* to its production; they may establish an inflammatory or nervous disease, but they will not cause *typhus fever*, unless typhus be prevalent in the district at the time, or unless the patient has been exposed to contagion. *Then*, the means which on other occasions produce other diseases will engender typus fever of the worst description. In *contagion*, and what are called *epidemic* and *endemic* agency, whether combined or uncombined with the *accessory* causes of fever, we therefore have a principle, which in this disease is equivalent to the influence of an external injury in producing constitutional irritation.

2dly. In both fever and constitutional irritation, we observe the same influence of the constitutional powers of the individual affected. While all the symptoms of this morbid state are produced by an external injury, a similar, or a much greater injury, will be borne by another patient with not the tenth part of the constitutional disturbance. So in the case of fever, several persons will be similarly situated as to the influence of pestilential agency or contagion; yet one will be attacked by typhus fever of intense severity, another will labour under merely a *febricula*, while a third will escape altogether.

3dly. Organic changes take place in both diseases under similar circumstances. If the patient be predisposed to any organic affection, it is sure to display itself during the perturbation of the system consequent on the establishment of fever or constitutional irritation. This will hap-

pen even at an early period, and to a considerable amount, if the patient has been much exposed to the operation of those agents, cold, vicissitudes, &c., which are accessory in the production of the febrile affection, and which exert the principal influence in forming organic disease.

Constitutional irritation thus renders us powerful pathological assistance, by shewing the capability of an external and remote irritation of the nervous system to produce *organic disease*, as well as a constitutional disturbance similar to fever. A man receives a bruise on his head; severe constitutional disturbance supervenes; he displays symptoms of local disease in the thoracic or abdominal viscera; he dies, and the expected organic changes are discovered. Here no one can say that pneumonia or hepatitis was the *cause* of the disease, which is distinctly referrible to an obvious injury inflicted on a limb. Hence we arrive at the conclusion, that the *occasional* appearance of certain organic changes in *fever* ought not to induce us to refer the cause of this disease to them. We cannot trace out its exciting cause, contagion, &c., with such facility as in the case of external injury; but the circumstance that there *is* an external cause in operation (although more obscurely), and with nearly similar results, in the one case as in the other, and that in both there are the same variations as to the occurrence of organic affections, whether as to this taking place at all, or in any particular form, afford confirmation to the great similarity (or nearly identity) of fever and constitutional irritation. Now as the latter is clearly referrible to an external impression made on the nervous system, modified by the constitutional idiosyncrasy of the individual, and by the operation of what are termed accessory causes, ought not FEVER to be referred to a similar source—with the substitution of contagion, or epidemic, or endemic agency, for injury, &c.?

Some say, "Any pathology rather than none." This I deny. The person who knows by experience merely that a certain remedy applied in a certain way will cure a disease, and who proceeds on this principle, is a far safer practitioner than he who adopts erroneous opinions, and *acts* on them. The reason that false pathology has not done so much mischief as might have been expected is, that practitioners often theorise about disease in one way, and practise in another. Their theory is unfounded, but their practice, based on their experience, and not on their avowed principles, is correct.

Among the many physicians who have been distinguished in Dublin for their skill in the treatment of fever, none perhaps have attained to so great a celebrity as the late Dr. Harvey, nor has there appeared since any one so conspicuous for the successful management of what seemed to be desperate cases. I endeavoured, at an early period of my professional career, to make myself acquainted with his rules of practice; and the most accurate information I could acquire was, that his great secret consisted in doing "*very little*." It was a sarcastic remark of his, that "the patient was in greater danger from the doctor, than from the disease."

It is not unlikely that a modification of this remark of Dr. Harvey is applicable to many diseases besides fever. It is still in reserve for us to learn, how disease will subside without the daily administration of medicine, or how far it is a provision of nature that it shall run its course, and then terminate favourably. For instance, a principle most confidently inculcated formerly, that the tendency of cholera is always to a fatal termination, and that the patient is never saved but by art, was disproved by the fact frequently observed in Ireland, that paupers left in the last stage of cholera asphyxia to die in a ditch, recovered notwithstanding, and without the use of any medicine but cold water.

"What is to be *done*," is a frequent question at medical consultations. It is often, however, of more consequence to know what is *not* to be done; and the practitioner often cannot display greater skill in fever than by knowing when to do nothing. By adopting the negative mode of treatment in the great proportion of cases, and by interfering in the others only to the amount actually indispensable, during my attendance at Sir Patrick Dun's Hospital, when fever was unusually prevalent two years ago, I lost but two patients; one of whom was a confirmed drunkard, and the other laboured under long-established emphysema of the lungs, complicated with bronchitis. For the latter disease, rather than fever, she was admitted into the hospital.

It is fully established, that patients will recover in a great majority of instances from typhus fever, by the almost unassisted powers of nature. In many such cases, especially among the lower orders of society, such is the torpor of the functions, partly from the disease, and partly from previous habits, that a medical attendant can scarcely do harm by any practice confined within reasonable bounds; and whether he bleeds and purges on the one hand, or uses bark and wine on the other, provided he does so moderately, he will not *prevent* the patient's recovery. This fact has not only led to the undeserved reputation of alleged specific modes of treatment in fever, by a coincidence of spontaneous recovery with

their supposed effects, but has also caused an opprobrium to our profession, namely, that statistical returns prove that the average amount of mortality is nearly the same under one mode of treatment as another. The reason of this, however, is, that the *average* mortality is influenced by the *large* proportion of cases, which are of the description I have mentioned, where almost any treatment or no treatment is equally successful as to the result. It is in the *small* proportion that medical skill and the effects of medical treatment are shewn; and these, from their fewness, but little affect statistical returns. In such cases the practitioner is constantly between Scylla and Charybdis; and whether the necessities of the case require bleeding, purging, mercury, wine, or other stimulants, whatever is done beyond what is actually *necessary*, is done injuriously.

Typhus fever presents itself in two forms; typhus, properly so called, and the synochus of Cullen, where local inflammation to a greater or lesser extent is combined with typhus. The distinction of such cases, and the mode of treatment, will be referred to hereafter; for the present, I cannot too strongly urge the danger of being led astray by that pertubation of the system which once led to the hypothesis of a fermentation of the fluids; and under the operation of which, local disease, which in itself might require active and special treatment, is liable to be simulated. Thus, with disturbance of local functions, or determination of blood to various parts, unusual secretions take place in the respiratory organs, as elsewhere; and which, on the application of auscultation, seem to depend on organic disease. I have been repeatedly assured by others, after the application of the stethoscope, that the lungs were softening, or that latent pneumonia was present; and yet the physical signs subsided, without any direct treatment, on convalescence from fever being established.

I particularly distrust *crepitus*, when existing merely in the *gravitating* portion of the lung. I have repeatedly observed it at the back of the thorax, when I am convinced, from the progress of the case, that it depended merely on a general secretion which had become accumulated there in consequence of the supine posture of the patient. I therefore rarely direct any special treatment for *mere* crepitus, when occurring in typhus fever; inasmuch as there is less danger in allowing pneumonia, if present, to further develop itself, than to venture on bleeding, mercurialization, or the action of tartarized antimony, *unnecessarily*, in *typhus*. Admitting, as I do, the value of stethoscopism, I am sorry to say that its application in *typhus fever* has, in my opinion, destroyed more lives by the effects of contagion, among medical practitioners and pupils, than it has saved among their patients, by the information it afforded availably for practical purposes. Among the former, I may mention the instance of my lamented friend, Dr. Stack, formerly professor in the School of Physic, and physician to Sir Patrick Dun's Hospital, who, unfortunately for himself, had become imbued with the notion, either that fever was but little contagious or that he was proof against its influence; and although his long exposure with impunity, while stethoscoping fever patients, seemed almost to countenance such a supposition, his premature death, undoubtedly, and with his own assent, referable to contagion, afforded a link in the chain of proof as to the danger of the practice, since fully made up by numerous and lamentable instances.

I wish it to be understood that *clinical* lectures are to be considered as commentaries on disease rather than its description; and that even where the individual cases under hospital treatment are not referred to. I mention this in explanation of the cause of frequent omissions with respect to symptoms and treatment, and which, as well as homeliness of expression, might be avoided in a more methodical consideration of the subject.

[To be continued.]

REMARKS ON THE OFFICE OF CORONER.

REPLY TO MR. CHATTO.

To the Editor of the Medical Gazette.

Sir,

In your last number a paper by Mr. Chatto—"Objections to a Medical Coroner"—attracted my attention; and in consequence you are troubled with the present communication, which, should you deem it worthy of a place in your columns, you will oblige me by inserting in your journal at your convenience

In many of Mr. Chatto's remarks I admit that there is a great degree of plausibility, and, if the appointment were vested in the hands of well-educated barristers, I would even say truth. But, sir, if we calmly look around us, and consider the qualifications of those who fill such appointments, it will, I think, be admitted that any medical man (however *mediocre*),

of modern education, must be quite as competent as any attorney, not possessed of extraordinary medico-legal knowledge, can be to discharge the duties of this very important office. This will be more apparent when we recollect that the functions of coroner are now restricted to the investigation of the causes of death, and the concomitant circumstances. Had even the old regime existed, it appears to me that a medical man and an *appraiser* should have conjointly filled the office. In consequence of the existing law so restricting the duties of the coroner, I must be allowed to express my entire dissent from the opinions entertained by Mr. Chatto; and but for the invidious nature of such a task, it would not be difficult to convince Mr. Chatto himself of the justice of what is now advanced. As to the appointment of a medical officer, "handsomely paid," one of whose principal duties should consist in examining the bodies of those found dead under unusual circumstances, I ask Mr. Chatto, and your readers generally, what possible benefit could arise from the existence of such a functionary, unless he were subject to examination by a man at once competent to duly appreciate the value of his report, and to comprehend the validity or fallacy of its statements? This principle of medical appointments is subject to other objections: at present I shall mention but one, viz.:—A medical man of very ordinary attainments may attend a case demanding after death an inquiry. In the ordinary course of events the man who attended the deceased should be an important witness; but, according to Mr. C.'s scheme, his place is to be usurped by the well-paid functionary, whose only knowledge is to arise from a *post-mortem* examination. Were such a plan adopted, my humble opinion is, "the decisions would (in all probability) then become (not) consistent (*but inconsistent*) with common sense and actual facts." Such cases have fallen under my own observation, both when I served as coroner and subsequent to that period. I will even go a little further than this, and declare it as my honest opinion, that unless the office be filled by a man well acquainted with forensic medicine, the inquest becomes neither more nor less than a solemn mockery, and in some instances a very melancholy one. A verdict was, for example, returned on the body of a friend of my own, of "*felo de se*," where I could have proved *more* than eccentricity; and but for the fact that the inquest was conducted by a coroner surpassed by his jury alone in ignorance, the verdict must have been "insanity." Now, sir, there is another point in Mr. Chatto's letter which demands comment—viz., the duty of the coroner.

I admit that in the literal sense a coroner is not called upon to "direct" the jury; but, sir, it is his most important duty to elicit the truth, and to *criticise* the evidence, and to assist the jury to the utmost of his power. If such be not the case, why saddle the country with a useless expense? Why not simply entrust such an inquiry to a jury, which, like the grand jury, might elect a chairman from amongst its members? By such a course two expensive offices would be abolished, if Mr. Chatto's views are founded on correct premises. An objection (not adverted to by Mr. Chatto) exists in the mind of the public as to medical coroners—viz., "that medical men are not qualified to obtain evidence." Now, sir, if we reflect upon the nature of medical science, its niceties, and almost imperceptible distinctions, especially as regards diagnosis, it appears to me that, with the exception of the barrister, no man can or should be better qualified than a medical man. I agree with Mr. Chatto, that Mr. Wakley's observations were quite strong enough on the occasion alluded to; and having conducted an inquiry into a case of drowning supposed to be connected with murder, I do not express this opinion unadvisedly.

Having devoted a considerable portion of that time not occupied by the practical duties of my profession to legal medicine, I hope that these observations will not be deemed altogether gratuitous.—I am, sir,

Your obedient servant,

GEORGE FIFE, M.D.

Newcastle-upon-Tyne, March 20th, 1839.

ON THE EAR.

NO. I.

To the Editor of the Medical Gazette.

SIR,

DR. DELEAU, Jun. published last year, at Paris, a work of about 425 pages,

on the Catheterism of the Eustachian Tube, and the employment of Atmospheric Air in the Maladies of the Middle Ear.

To this work I have had my attention directed by a friend, and I beg to offer a few remarks upon it, including, as I proceed, extracts of some curious portions.

Dr. Deleau's plan appears to be the introduction of a flexible gum elastic tube, containing what he calls a mandrel of soft silver wire, whereby the curve of the tube can be preserved, and the flexible tube be inserted into the Eustachian tube (the gutteral conduit leading to the cavity of the tympanum) by passing it through the nose. The wire is next withdrawn, the tube is attached to the cartilage of the nostril by little silver nippers, and the outer extremity of this flexible catheter is then united with a larger flexible tube, connected with a vessel of a bell-like shape, containing condensed air, which, by turning a stop-cock, is injected into the Eustachian tube in douches or jets. This method of operation I gather, not only from the work itself, but also from the report made to me by a gentleman who went to Paris to consult Dr. Deleau, and was operated upon in this manner, without, however, deriving any benefit.

Dr. Deleau gives the Report of the Royal Academy of Sciences at Paris, wherein is assigned to Guyot, postmaster at Versailles, the credit due to the idea of passing a tube and injecting warm water into the Eustachian tube, to cleanse the cavity of the tympanum from any obstruction that might exist there. Guyot is described, in this report, as being well acquainted with the organization of the ear and with the mechanism of hearing, and that he introduced a hollow probe into the entrance of the Eustachian tube, and injected warm water, which removed the impacted mucus, and gave him the faculty of hearing. Guyot has before been brought forward upon several occasions, and one person absolutely advertised that the operation, as invented by the Sieur Guyot, was performed by him. Now had the persons who drew up the report above quoted, taken the trouble to refer back to about 1726, they would have discovered that the subject then underwent a very serious and close examination before the members of this very Academy. Guyot was also examined; and the result of their deliberations was, that Guyot had never reached the Eustachian tube by the way he had imagined he had accomplished it, namely, through the mouth, which the members of the Academy decided was impracticable even in the dead subject, and much more so in the living. That Guyot was benefited in some degree in his sense of hearing appears to be admitted; but, independent of this solemn decision of the Royal Academy, it will surely not be pretended by any competent anatomist at the present day, that a tube, or any instrument, can be passed through the mouth upwards behind the tonsils, and then laterally into the Eustachian tube. I have always considered whatever improvement Guyot gained in the sense of hearing was through his injecting the warm water into the pharynx through the mouth, which produced a species of suffocating sensation, and tendency to vomit, and that these efforts caused the Eustachian tubes to throw out the mucus with which they were obstructed; but I am of opinion that a gargle, used when the body is in a horizontal position, will produce quite as good an effect, if not better, than any injection into the Eustachian tube, even accomplished by the more reasonable passage through the nose. Mr. Cleland attempted the performance of the operation through the mouth, but failed. Mr. Douglas demonstrated, upon the dead subject, the possibility of passing a bent probe through the nose into the Eustachian tube. Mr. Wathen, about 1755, introduced a bent silver tube through the nose into the Eustachian passage, and connecting the end with a syringe injected warm water therein; but his success in the few cases upon which he experimented were not, it is believed, such as to tempt him to proceed further. The Academy, however, in their recent report, not only omit all account of the former decisions upon Guyot's experiment, but accuse our countrymen, Douglas and Wathen, of following the same method, ascribing most unjustly to Desault, a French surgeon, the discovery of passing the tube through the nose. In this country we find no account of any surgeon having attempted this operation until 1818, when I tried it in several instances; but I do not think that it is superior to a gargle if

properly used. In France, M. Boyer, M. Itard, and Dr. Saisay, were the persons who adopted this method; but we heard little of the effects produced.

I will now revert to a consideration of Dr. Deleau's plan of sending in jets of air. I will grant that he inserts his elastic tube into the Eustachian conduit, which is filled with mucus, as well as the cavitas tympani, and that in withdrawing the silver wire which serves to give it the proper curve, the tube is not withdrawn out of the situation in which it had been placed—a matter, however, very problematical—the jet of air rushes into the passage already closed by the elastic tube, impacting and condensing the whole into a more solid mass, if before of a caseous consistency, but if in a more fluid state driving it into the mastoid cells, where it very probably will occasion serious mischiefs, such as I will endeavour to describe in a continuation of this subject.—I am, sir,

Your obedient servant,

W. Wright,
Surgeon-Aurist.

13, Salisbury Square, Fleet Street.
March 18, 1839.

MR. M'LELLAN'S CASE OF STRANGULATED HERNIA.

To the Editor of the Medical Gazette.

Sir,

When a practitioner records instances of disease in some rare forms—when he proves the peculiar value of some remedial measure—when he confirms the propriety of some rule of practice—or when, by pointing out the sources of his own mistakes in diagnosis or treatment, he succeeds in erecting himself as a beacon, and by that means enables others to avoid the errors which have been injurious to him, he does a service to the science of medicine; but he who, in the face of facts, plausibly endeavours to make the ultimate termination of a case correspond with his own diagnosis at the commencement, and, more ingeniously than justly, dovetails the symptoms as they occur, with some acknowledged description of a particular form of disease, only renders more obscure what it should be his object to set in as clear a light as possible.

I read with interest a case recorded in the Medical Gazette of March 2d, but, from the heading, I should have expected rather more undeniable proofs of the fact assumed—viz. that recovery took place in a case of strangulated hernia, after the symptoms had existed for fourteen days. These symptoms, as recorded by Mr. M'Lellan, were as follow:—

"It (the tumor) was slightly *elastic*, having the feel of *intestine* rather than *omentum*, and only admitted of partial diminution on continued pressure. There was considerable anxiety and restlessness; sense of painful constriction across the abdomen; nausea and vomiting of the fluids she drank, mixed with bile, and afterwards with fæces. *Constipation of several days' duration*; skin covered with a clammy perspiration; tongue furred and dry; thirst urgent; pulse sharp and accelerated, and respiration oppressed. *There was hardly any pain at the neck of the tumor, and no tenderness of abdomen.* The taxis failing to produce any *permanent* effect, a consultation agreed on the propriety of an immediate operation."

In addition to this, we are informed that the woman had been the subject of an *irreducible* hernia for 50 years, and that nothing would induce the patient to submit to an operation, for even she could not understand the connexion between the old hernia and her present sufferings; in short, says the writer, she determined rather "to die than be cut." The stercoraceous vomiting increases daily until on the eighth day, when a marked remission occurs; the patient asks for food, and expresses herself better; gangrene of the intestine is now suspected. About the fourteenth day after, continuing to eat and improve, she passes two copious stools, and by the aid of warm water enemata, "upwards of a dozen" more, "ten days after all remedial means had been abandoned."

Mr. M'Lellan, by a strange perversion of reasoning on the case, says (even after its favourable termination), "It was doubtless a strangulated hernia, resisting all means short of operation." We are, however, kept quite in the dark as to the means which had been adopted previously to the abandonment of the *vis medicatrix naturæ*.

May I be excused if I insinuate that

a much more common-place view might be taken of the case; such a one as to make it serve as a caution to young practitioners to give nature every seasonable chance of assisting herself, without the dubious benefit of their interference?

Is there, I would ask, in the history of symptoms, as related by Mr. M'Lellan, any thing very contradictory to the following view of the matter?—that the symptoms depended wholly upon fæcal accumulation in the intestines, independent of the old hernia, which is distinctly stated to feel as containing "*intestine*, rather than *omentum*." This accumulation (fourteen copious evacuations) was surely sufficient to account for the constriction across the abdomen, the vomiting, the oppressed respiration, and febrile symptoms; while the absence of pain or tenderness in the tumor or abdomen, as also of hiccough, serve negatively to confirm this view of the subject. From neglect of the bowels, they had become inordinately distended, and thus such a degree of torpidity was induced as to prevent the accumulation from making its exit in the usual manner: nature, however, endeavoured to relieve this state of affairs by inducing the vomiting; the system relieved thus far, the accumulation was diminished sufficiently to allow the intestine to resume its functions, and, by consequence, all the symptoms vanished. Had the old woman submitted to the operation when she was advised, what would have been the benefit? I opine the case would then have been complete in its kind, and would have served to place in juxtaposition with instances of dry tapping, ill calculated operations for stone, or any similar practical *faux pas*.—I am, sir,

Your obedient servant,

H. G. Harbord.

Liverpool, March 21, 1839.

THE PREVALENT EPIDEMIC.

To the Editor of the Medical Gazette.

Sir,

With your permission I will take the liberty of drawing the attention of your readers to the principal symptoms of an epidemic now prevailing in this metropolis.

The first signs of an attack are pains at the epigastrium and hypochondria, generally increased by pressure, giving rise in some instances to the suspicion of inflammation. There is anorexia, much lassitude, an excited pulse, a white tongue, and a hot skin. In a few hours a well-marked shivering attack is observed, succeeded by fever of a remitting character; during which the strength is completely prostrated, and the mental powers considerably disturbed. The pulse rises to 120, but is very feeble; the heat of surface is extreme, the pains of the side severe, and the sleep much disturbed. After continuing three or four days, the symptoms begin to subside, generally terminating with profuse perspiration.

But the most remarkable feature in this epidemic remains to be noticed. Although the illness has not continued more than three or four days, such has been the shock upon the nervous system that it leaves the patient completely prostrated. His countenance expresses much debility; the voice becomes feeble; and when he attempts to walk, he is seized with instant vertigo, and obliged to desist. Days and weeks elapse before the strength is restored; and where the patients are of delicate habits, and advanced in life, there is danger of their sinking under the shock that they have sustained.

The principal point to be observed in the treatment of this disorder is to avoid the use of the lancet. Cases have come under my notice where blood-letting has been employed to combat supposed inflammation, in which the consequences have been most deplorable. In fact, little treatment is necessary, except keeping the bowels open, and the exhibition of saline aperients. In some cases, however, it is necessary to prescribe diffusible stimulants, or tonic remedies, even from the commencement of the attack.

These remarks may be sufficient to draw the attention of your correspondents to this important subject, by which means communications of greater importance may be elicited.

I remain, sir,

Your obedient servant,

Londinensis.

March 1839.

MEDICAL GAZETTE.

Saturday, March 30, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

QUACK MEDICINES.

A curious topic, not touched upon by Dr. Cowan, nor, as far as we know, by any other writer on quackery, is the immense multiplication of trifling diseases which attends on the advancement of civilization; so that, great as is the increase of the medical army, still greater is that of the foes whom they have to subdue. It is true, that in large towns the constant though still half-stifled complaint of our host is, that they have no practice; but this is to be understood of the lack of those who help to pay the baker's bill; the simple patient is not very difficult to procure. The reasons of this enormous overflow we apprehend to be chiefly two: the first is, that in ruder ages a smaller proportion of those weakly children is reared, to whom life is a long disease; and, secondly, that among the boors of an unrefined community, either small ailments are of less frequent occurrence, or, when they occur, are allowed to take their course almost unnoticed. Slight catarrhs, headaches, and chronic eruptions, induce millions at the present time to seek for medical advice in some shape, who would formerly have been scarcely conscious of the disorder, as we still see among labourers of the lowest class. But the capability of paying for regular advice can hardly be supposed to have kept pace with the rapid progress of social refinement; and many persons spend a large portion of their time in an uneasy criticism of their own sensations, who are incapable of remunerating a medical practitioner of the most moderate pretensions. This, if we mistake not, is a reason, and a weighty one, why in London and other great towns, where there is an apparent superfluity of regular practitioners, irregular aids of every kind should likewise abound. Advertised and unadvertised nostrums, family receipts, amateur attempts, conjectures of literary men, prescriptions spelled out of Buchan's Domestic Medicine, and doctorings by tailors and weavers at 2s. 6d. a case, are merely a few examples of the way in which the insatiable thirst for health is slaked at very muddy fountains. To endeavour to put all this down by informers and policemen would be intolerable; it would be like flogging a negro for eating dirt, instead of giving him the absorbent which is required to quell the cravings of his malady. In one of those stringent clauses which we quoted in our last number, Dr. Cowan proposes to punish every one who even attempts to practise without a legal qualification, but excepts the gratuitous administration of remedies when medical advice cannot be procured. But what if it can be procured, only rather far-fetched and dear-bought, and, unfortunately, not commanding the confidence of the sick man, while Buchan, with a friendly interpreter and a medicine chest, are on the spot? The answer is clear enough: the clause is peremptory, and the amateur prescriber (suppose the clergyman of the parish) must pay his fine, and perhaps go to gaol to boot. We shrewdly suspect that such an event would not tend to make the faculty very popular in the district; especially if the case had prospered. But Dr. Cowan will say, take a case of a contrary kind, and see what you can make of that. The other day, for instance, as we read in the newspapers, a girl in the country drank a decoction of yew-leaves, for worms, and died in consequence. If the adviser had been fined or imprisoned for a short time, it might have tended to

check the destructive zeal of lay practitioners. True; but this could have been done without any new law, as the prescriber might have been put on his trial for manslaughter. Even in such cases, however, the public feeling is rarely strong against the misdoer: when it is proposed to protect the simple against this species of wrong, they cry out that they do not want to be protected; like the wife of the wood-cutter in Moliere, who is angry with the relation that endeavours to save her from being beaten by her husband, and exclaims, "*Je veux qu'il me batte.*"

We would mention that Dr. Barlow, one of the authorities quoted by our author, settles the question of lay-practice very succinctly, and says, that "to attempt to restrain the public from seeking advice in any quarter, or any individual from giving it when applied to, is absurd, and must ever prove nugatory; for the public never will submit to such dictation." Of course this toleration does not extend to passing over cases like that of the yew-leaves, but manslayers with drugs must take their chance at the Old Bailey, like those who kill with knife or pistol.

The public, again—and it is by them, and not by a medical tribunal, that the whole question is to be decided—will not pity us much when we talk, as Dr. Cowan does, of the long and expensive education of medical men. In the first place, the sect of Pyrrhonists will doubt whether, in many cases, the education was either long or costly; and secondly, the sterner critics require that the fruits of this education shall be shewn, not in parchment diplomas, nor accounts of monies expended, but in sound practical knowledge, as well as general information. Without these, the finest rustling parchments are as inane as the crackling thorns upon the fire; with the difference, however, that they do not make the pot boil!

One of the arguments of the Fleet Street pamphleteers touches this point, and is ingenious enough. They ask, "How is it that medical men speak of their privileges being invaded, and their emoluments curtailed, by the sale of patent medicines, whilst they profess to consider those medicines not only useless, but injurious? Allowing them to be useless, they must be considered as benefiting members of the profession, by permitting the diseases of those resorting to them to gain ground; and thus rendering a longer and more lucrative attendance of the medical practitioner necessary. Allowing them to be injurious, the same argument holds good—in most cases in a stronger degree; because, not only does the disease for which relief is sought gain strength, but (except in those cases where death ensues, as a consequence of the application of the supposed remedy) the patient may possibly become a confirmed invalid, and afford a rich harvest to medical men for a long period of years."

Many a true word, says the proverb, is spoken in jest; and though Sharp, West, and Co. merely intend to be infinitely waggish, what they suppose must constantly happen. Whether the patient is driven to the nostrum by lack of cash to get advice, or by sheer despair, the dolorous cry, "That's so much out of our pockets!" seems misplaced in a professional mouth; and as for trying to protect the public by force against their own follies, we must repeat that we shall get as much credit as the kind relation in Moliere, while they shout out with all their lungs, "We like to be beaten."

As for persuasion, that is quite a different thing; we shall never cease to urge the diffusion of information. Teach the world that yew-leaves are dangerous, and safer vermifuges will be used; shew that colocynth cannot be

taken *ad libitum*, and the most notorious of pills will lose their popularity.

The men of Fleet Street conclude their pamphlet with a letter from a gentleman who has nothing to do with the sale of nostrums, but is deeply and passionately enamoured of them. "I am not the rose," says a Persian poet, "but I have lived near the rose." If the zealous correspondent is not a vender of infallible preparations, he must assuredly have been nursed in a patent medicine warehouse. Dalby's Carminative must have been imbibed with his mother's milk, and the Balm of Gilead must have soothed his maturer years, while he prudently reserved Morison's pills for the termination of his existence! Love is blind, and the unknown gentleman does not see the immense advantage that a prescription by the commonest apprentice has over a patent medicine; the apprentice sees his case, while the nostrum is a random hit. A probe thrust in the dark may be as fatal as a dagger.

In attempting to answer Dr. Cowan's argument that patent medicines ought to be put down by law equally with uncertificated practitioners, it appears to us that he does not state the case correctly. He supposes that the uncertificated practitioner cheats the public by pretending that he is licensed; while the vendor of nostrums has no such false pretence, but thrives by a continual chain of recommendations. We believe that the unlicensed practitioner rarely professes to be licensed, and that the public care very little about the matter, but go to him on the representations of those who believe themselves to have been benefited by his treatment, his original patients having been his private friends. Dr. Cowan's mistake appears to be in supposing, because the Apothecaries' Act is submitted to with but little murmuring, that the public would tolerate a law so stringent as to leave no loophole to despair, poverty, or caprice. At present the iron hand of the law falls only on those who practise as apothecaries, while, if we may trust Gray, "the midwives, herbalists, cuppers, barbers, electricians, galvanisers, densists, farriers, veterinary surgeons, village wisemen, and cow-leeches, are left in full possession of their ancient practice, and may be employed by those who place confidence in them, as they cannot be confounded with apothecaries, though the chemist and druggist may*."

We have some doubts as to the quantum of practice which is left to these sages, as it is clear that to send in a bill for medicines, their advice having been previously given, would bring them under the Act. We must now conclude this subject for the present.

It is with reluctance that we have differed from so warm a friend of the profession as Dr. Cowan; but our conviction of the impracticability of most of his propositions has obliged us to do so; nor do we think it a compliment to a liberal profession to put down its rivals by force.

To diminish quackery, three things are specially required:—

1st. The improvement of our art. This will lesson the number of those who take nostrums from despair. It is by advancing the art which he practises, that every one must strive to show that his long and expensive education has bestowed upon him a privilege which the legislature need not guard by penalties—the privilege of discernment.

2ndly. The diffusion of knowledge on medical points, with particular reference to the danger of many drugs, and the absurdity of using any at random, by drawing them from the wheel of chance at a patent medicine shop.

* Supplement to the Pharmacopœia, 4th edit., p. xxvii.

This will diminish the number of those who fall into the clutches of the charlatan from ignorance or caprice.

3rdly. It is necessary to make good advice accessible to every one. Clubs or societies for the insurance of health must be formed on easy terms; and this will withdraw thousands who now fall a sacrifice through poverty.

CLINICAL LECTURES ON SURGERY,

Delivered at the Middlesex Hospital,

By Mr. Arnott.

1. *Foreign Bodies under the Upper Eyelid.*
2. *Deep-seated yellow Opacity in the Eye, not dependent on Medullary Fungus.*
3. *Penetrating Ulcer of the Cornea.—Hernia Corneæ.*
4. *Blepharospasmus.*

After some remarks on the principal points to be attended to in the examination of diseased eyes, with a view to diagnosis, Mr. Arnott observed, that of injuries to this organ the most common are those produced by the access of foreign bodies to it. Most of these act mechanically; some, by their continued presence, causing irritation and inflammation; others, according to their form or the impulse given to them, producing a wound followed by the same results, or destroying the eye at once as an organ of vision.

A small particle of any substance getting into the eye, as is said, instead of being washed away by the copious flow of tears which immediately ensues, or being got rid of by the almost involuntary efforts of the patient for its removal, sometimes remains; and it is important to know where and how to look for it.

In examining an eye in which a foreign body is alleged to be, you first run over that part of the organ naturally exposed; look at the edge of the lids, to ascertain that it is not resting there—to the internal angle, where it is sometimes entangled—to the cornea, where sharp bodies are frequently imbedded—and to the exposed part of the conjunctiva. Not finding it, gently pull down and evert the lower lid, so as to expose its inner surface, and cause the patient at the same time to direct the globe upwards, so as to bring into view the whole of that gutter formed by the reflection of the conjunctiva from the lower lid to the globe. Failing to discover the foreign body here, you then evert the upper lid; and this is easiest effected by taking hold of the ciliæ with the finger and thumb of the left hand, and having placed a probe on the outer surface of the lid, just behind the posterior edge of the tarsal cartilage, you turn the lid over on the probe, so as to evert and expose its inner surface.

The inner surface of the upper lid is a very common seat of foreign bodies. A man of the name of Carne was admitted, on the 26th of Feb., into Hertford ward, with iritis, the symptoms of which, under the ordinary treatment, soon subsided. Some days after the redness had disappeared, it was observed to have recurred; but this was now seated exclusively in the conjunctiva, and the patient was questioned as to the cause, whether he had been out, &c. &c. He denied having been out, adding, however, that for a day or two he had felt as if something was in the eye. There was nothing observable in the exposed part of the organ, nor on the inner surface of the lower lid; but on everting the upper, there was perceived adhering to its concave surface a minute black particle of matter, which required the application of the edge of the flat end of the probe to effect its displacement. The sensation of which the man complained was now gone, and the redness of the eye soon disappeared.

About a fortnight ago a surgeon in the army came to my house, complaining of great pain in the eye, which was red, watering, and which he could not open voluntarily, arising from something having got into it two days previously. He had tried to remove it, and having had the pipe of a small syringe placed under the upper lid (to which situation he referred it), a stream of water had been thrown under the lid, in expectation of dislodging it, but ineffectually. On everting the lid, there was seated a small black speck on its inner surface, which being removed, the pain ceased, and the other symptoms followed.

A minute particle thus placed may remain for some time, so as to escape detection. Last September a lady felt something get into her eye as she was walking in the street. Her surgeon on repeated examinations could discover nothing; and as, notwithstanding the use of lotions, &c., the sensation still continued, and the eye was red and weak, at the end of eight days I was requested to see her. On everting the upper lid there stuck on its concave surface a small black speck, which being displaced, its effects quickly ceased.

If it is not discovered in the situation we have been just alluding to, and the sensation of it is still present, then it may be entangled in that part of the conjunc-

tiva which is reflected from the upper lid to the globe, and as this gutter cannot be brought into view, we sweep it by means of a camel's-hair pencil dipped in oil, passing this under the lid to its whole depth, from the inner to the outer angle of the eye.

For removing substances partially imbedded in the inner surface of the upper lid, or in the cornea, the instrument I shew you is useful; it is merely a thin piece of silver, the size of a cataract needle, but flattened like a minute scapula, having neither a sharp point or cutting edge, the edge being sufficiently thin to catch the projecting but partially imbedded foreign body, and yet not to wound the conjunctiva or cornea.

The substances impacted in the cornea are usually of metal, but any thing equally sharp will penetrate. A tradesman in Bond Street brought me his son, who, two days before, felt something get into his eye, where it still remained. I detected it in the cornea, removed it with this instrument, and receiving it on the nail, it appeared to me to be a bit of black sealing-wax, which the lad confirmed, by stating that he was breaking a stick of it at the time he first experienced the sensation.

In connexion with the effects of injuries of the eye, the case of John Body, who was admitted on the 5th of December, presented some very interesting appearances. This lad had an affection of the left eye, the conjunctiva and sclerotica of which were red; the cornea, anterior chamber, and pupil clear, the latter of its ordinary size; the iris of its natural colour, but uninfluenced by the action of light, *i. e.* motionless. But the peculiarity of the case consisted in the existence at the bottom of the eye deep behind the plane of the lens (probably posterior to the vitreous humour), of a yellow substance, over the surface of which a number of the most delicate red vessels could be seen running, and presenting a very beautiful appearance. The vision of the eye was wholly lost.

Here were symptoms exactly corresponding to those presented by medullary sarcoma of the eye in its early stage; and most persons witnessing them for the first time, and ignorant of the history of the case, would have attributed them to that dreadful, and in the eye utterly hopeless disorder. But though Body was admitted on the 5th of December, this was a re-admission. He had originally come into the hospital three months and a half previously, viz. on the 21st of August, and under the following circumstances:—

A week previously a stick had been thrust into his left eye, and the sight immediately destroyed. The conjunctiva and sclerotica were now crowded with red vessels, with chemosis of the former membrane. The cornea was transparent, but a bluish turbidity filled the anterior chamber, so as considerably to obscure the pupil and iris. The former, however, appeared to be of its natural size, but the condition of the latter could not be satisfactorily made out. At the outer part of the globe there was a wound of the sclerotica just at its juncture with the cornea, which was also in a very trifling degree involved.

With this condition of parts, and total loss of vision, there could be no question as to the prognosis; it was hopeless as regarded the recovery of sight. But still the case was a proper one for treatment—active treatment, too—it being a most important object to save the form of the eye, although it is destroyed as an organ of vision. Here was an eye affected with violent inflammation in consequence of injury: if the inflammation had been allowed to run on unchecked, it might have terminated in suppuration and destruction; that is, bursting and collapse of the globe, and consequent falling in of the lids. Now a sightless eye, if of its natural form and size, is much less of a blemish; and hence, with a view of preserving this in Body, leeches were repeatedly applied, purgatives given, and the other parts of the antiphlogistic treatment adopted, followed by the exhibition of calomel in repeated doses, and the application of belladonna, in the hope of checking the progress of iritis, should it have existed, or of deeper-seated disorganizing inflammation.

Three days after admission the bluish turbidity in the anterior chamber had materially lessened; by the fifth had entirely disappeared; and now there was observed, deep behind the pupil, a greenish yellow colour, which by the eighth day had become uniformly saturated and yellow. From the first it was evidently not seated in the lens, which had either disappeared by absorption in consequence of rupture of the capsule, of which the bluish turbidity in the anterior chamber had in the first instance given some suspicion, or it remained and was perfectly clear and transparent. Now it was as certainly seen not to be seated in the posterior capsule, but deeper than this, possibly in the vitreous humour, but probably posterior to it. A small quantity of pus or lymph collected under the conjunctiva, at the part corresponding to the wound in the sclerotica, and evidently having exuded from within this coat. On being pricked with a cataract needle, a mere drop oozed out; this re-collected, but afterwards became less prominent, and gradually subsided.

On the sixteenth day after admission

the appearances as regarded the colour at the bottom of the eye were the same, but there was now for the first time observed several minute vessels running apparently over the substance on which the yellow colour depended, and directing their course from the periphery of the globe towards its axis; these increased in number, so as speedily to form quite a zone all round, apparently in a situation corresponding to the level of that of the posterior part of the ciliary body, or the anterior part of the vitreous humour, deeper than which the yellow substance consequently must have been. The redness of the conjunctiva and the sclerotica had now somewhat abated; the cornea remained clear; the pupil of its ordinary size; and the iris of its natural texture, but motionless.

The condition of the eye becoming stationary, and the lad anxious to get home, he was now made an out-patient, occasionally shewing himself, until his re-admission in December, when little or no change had taken place; the sole treatment in the interval having been irregularly taken doses of hyd. c. creta.

The history of this case, then, shews that the yellow appearance at the bottom of the eye, which was at one time presumed to be diagnostic of medullary disease, is not actually so; that this appearance may originate in inflammation, and in the deposition probably of lymph, in the situation usually occupied by the medullary growth. In this respect it confirms the observation of Messrs. Travers, Lawrence, and others, who have shewn that this deposition may not only originate in inflammation arising from injury, but in the same process taking place deep in the eye, unconnected with injury.

The subsequent progress of our case corresponded with one related by Mr. Travers, of a young lady wounded in the same situation as Body. In a short time after his re-admission, what I had for some time prepared you to expect took place—the globe diminished in volume; the cornea became less; the pupil contracted; in short, atrophy of the organ commenced, and was proceeding when he left the hospital.

The next case worthy of remark is that of Mary Falkner, æt. 25, who was admitted on the 5th of February, on account of corneitis. The cornea of the left eye was the seat of an ulcer, occupying about one-fourth of its extent at the lower part. The ulcer was deep—had an irregular ragged appearance and yellow colour, as if the part had been subjected to maceration, and infiltrated with pus. There was very considerable redness of the sclerotic coat and conjunctiva, great pain, intolerance of light, and epiphora.

This patient had been confined in the Westminster Lying-in Hospital about a month previously, and shortly afterwards had been attacked with this affection in her eye, which, notwithstanding the treatment adopted, had become aggravated.

She was put upon low diet, purged, leeched repeatedly, and calomel in repeated doses was given, and belladonna applied round the eye, in case the iris was inflamed, which could not at first be satisfactorily determined. She complained much of an augmentation of pain at night, to obviate which, opiate frictions of the forehead were used.

On the fourth night after her admission, she had a very severe attack, followed by a sudden escape of watery fluid, and a sensation as if something had given way. The following morning I found that this had arisen from the ulcer having penetrated the anterior chamber, which was abolished, the iris being every where in contact with the cornea; but from this time the inflammation began to subside; the ulcerated surface lost its yellow appearance, and became clear and transparent. The previous treatment was persevered in, with the addition of a seton in the temple. On the fifth day after the ulcer had perforated the cornea, it was observed that the anterior chamber was re established, and that there projected through the opening in the cornea a small transparent vesicle, constituting what is termed a hernia of the membrane of the aqueous humour, or keratocele, a condition dependent on the opening of this membrane having closed previous to that in the proper substance of the cornea, and being distended and protruded through the aperture in the latter, which takes a longer time to heal.

In the treatment of ulcer of the cornea, acute in its progress, as in the present case, the most efficient means are the antiphlogistic treatment, and issues in the temple. Calomel was given here, but this was done chiefly because it was dreaded that iritis also existed, for I do not attach so much value to its employment in ulceration of the cornea as to that of the ordinary depletory treatment. It has frequently been recommended that nitrate of silver should be applied in substance or in strong solution to the ulcer; but you will hesitate to resort to this in cases like the present, where the ulcer was so manifestly the consequence of acute inflammation, and not the cause of that under which the eye laboured.

When hernia of the cornea exists, how is it to be treated? We have been advised to snip it off, or to touch it with nitrate of silver. I recommend you to do neither; as the ulcer heals it will disappear, though no doubt the ulcer of the cornea

may, like ulcer elsewhere, exist for a considerable time. You saw how long this hernia was present in the case of Falkner (upwards of a fortnight), but that as the ulcer filled up and closed around it, it disappeared. But I have known it to persist for months. I was once consulted by an artist, in whom, according to the statement of the very intelligent surgeon who accompanied him, this affection had existed for four months. This gentleman had been subject every winter for several years to catarrho-rheumatic ophthalmia, the last attack of which had produced penetrating ulcer of the cornea. When I saw him, all inflammation had ceased for a considerable time; there was merely a very small ulcer of the part through which the hernia protruded, attended with inability to use the eye continuously. He was on his way to Italy, to pass the winter, in order, by a residence in that milder climate, to break the habit of those regular attacks of catarrho-rheumatic ophthalmia. The hernia in the cornea was not meddled with; in fact, nothing was done, but the ulcer ultimately healed, and the keratocele disappeared, during his residence in Rome.

In the instance of Mary Falkner, the involuntary spasmodic action of the orbicularis palpebrarum muscle which existed on her entrance was greatly alleviated by the introduction of a solution of the extract of belladonna into the eye twice daily—a beneficial effect, which was even more strikingly evinced in the case of James Green. This boy, æt. 9, came in the 26th of February, with scrofulous ophthalmia in both eyes, but more especially the right. He was almost unable to open this eye, from the violent spasmodic contraction of the orbicularis muscle, and he was only a trifle better with regard to the left. So violent, indeed, had the action of these muscles been, that the integuments of the upper and under lids of both eyes had been brought into contact, and became extensively excoriated by their constant friction on each other, with great tendency to inversion of the lids. To remove the excoriation, a solution of sulphate of alum was employed, and that of the extract of belladonna was dropped into the eye twice a day, to relieve the spasm. The effect of the latter was most marked: in two days he could keep the eye open, unless when he spoke, and then the eye invariably became involuntarily closed, from the action of the muscle alluded to; but in two days more he was enabled to speak without this occurrence taking place, and at the end of a week he could keep his eyes open without difficulty. It may be noticed, that although the excoriation of the eyelids has disappeared, the disposition to inversion of the lids has not yet entirely so; nor will this surprise you, when we are told that this disease of the eyes has continued for a period of four years, at which time he had the small-pox.

ROYAL MEDICAL AND CHIRURGICAL SOCIEY.

March 26, 1839.

Sir B. Brodie, Bart. President, in the Chair.

Contributions to the Pathology of the Spinal Cord. By William Budd, M.D. [Presented by Mr. Perry.]

The author commences his paper by alluding to the investigations of modern physiologists respecting the functions of the spinal cord. The leading fact which these investigations have developed may be thus briefly stated:—When the spinal marrow of an animal is cut off from its connexion with the brain by decapitation or otherwise, and a stimulus is applied to the skin, the impression of that stimulus is transmitted to the spinal marrow, and being thence reflected to motor nerves, it causes contractions of various muscles. The part which the spinal marrow takes in this action has suggested the term "reflex function."

The investigations of physiologists have consisted principally in experiments on the lower animals. It is the chief object of the present paper to shew that, under certain circumstances, the operation of the reflex function is exhibited in man in the same way as in decapitated animals. This is done by a series of cases of affection of the spinal marrow. The first case is that of a man, aged 43, who became gradually paraplegic, and had continued so fifteen months, when he came under the care of Dr. Budd. At that time there was a projection in the back, forming a vast abrupt tumor, and comprising the dorsal vertebræ from the fifth to the eleventh inclusive. Sensation in the lower half of the body began to fail at the umbilicus, and through the whole of the lower extremities it was nearly abolished. He had no power of voluntary motion over the lower extremities. When, however, any part of their skin was pinched or pricked, the corresponding limb jumped with great vivacity; the toes were retracted towards the instep; the foot was raised on the heel, and the knee flexed, so as to lift it off the bed. The limb was maintained in this state of tension for several seconds after the withdrawal of the

stimulus, and then became suddenly relaxed. Once or twice, while the left leg was thus excited, the great and second toes of the right foot were simultaneously drawn towards the sole. In those instances the pinching or pricking was perceived by the patient; but much more violent contractions were excited by a stimulus of whose application he was perfectly unconscious. When a feather was passed lightly over the skin in the hollow of the instep, as if to tickle, convulsions occurred in the corresponding limb much more vigorous than those induced by pinching or pricking. In these experiments he was quite unconscious of any thing touching the limb. No movements were excited in his lower extremities by tickling any point in the upper half of the body.

Similar convulsions were always excited by the acts of defecation and micturition, but they were then much more vigorous than in any other circumstances, so that the patient was obliged to resort to mechanical means to secure his person while engaged in these acts. The convulsions were at all times quite involuntary, and he was unable by any effort of the will to control or moderate them. The passions had no power of exciting convulsions. In the spring of 1837, voluntary power and sensibility began to return in the lower extremities, and the convulsive movements became gradually less violent.

In his remarks on this case, Dr. Budd observes there can be no doubt that these contractions were of the same nature, and excited by the same process, as those witnessed in a decapitated animal. Although sensation was never completely extinct in the lower extremities, it was quite evident that the convulsions were induced independently of its mediation; for when an artificial stimulus was employed, they were uniformly the most vigorous in that case in which its application was not at all perceived by the patient, namely, when the hollow of the foot was lightly touched with a feather. The fact that such vigorous convulsions were excited by touching the hollow of the foot with a feather, the author considers interesting, as tending to shew that the nerves which convey these impressions to the spinal marrow were, if not the same as those of true sensation, most actively excited by a mode of stimulus which produces strong impressions on the sensitive nerves.

The author gives two other cases of paraplegia, in which he observed the same phenomena; and a case of tetanus, in which violent convulsions were induced by the slightest touch of the patient's surface; he then subjoins the details of several cases of the same kind that have been furnished him by Mr. Busk and Mr. Grainger.

The chief results to which these cases lead are—

1. That voluntary power has great influence in controlling these excited involuntary movements. Except in the case of tetanus, these movements were excited in the paralysed limbs only—were uniformly the most vigorous when the loss of voluntary power was complete—and diminished very rapidly as the patients regained the power of moving the limbs. At the first return of voluntary power, it seemed to require a distinct effort of the will to restrain the excited movements, but afterwards this appeared to be done unconsciously.

2. These excited movements may take place whether sensibility is destroyed or not.

3. Irritation of the integument of one leg generally caused movements of that leg only; in some cases it also caused movements, though in a much less degree, in the opposite leg, and in the arms when they also were paralysed. In one of Mr. Busk's patients, irritation of parts which were not paralysed induced involuntary movements in the parts which were paralysed.

4. Irritation of the soles of the feet is more efficacious in inducing movements of the lower extremities than that of any other part of the legs or feet, but not so efficacious in inducing movements of the upper extremities as irritation of the surface of the trunk.

5. The stimulus of heat acts very powerfully in inducing these involuntary movements. Its effect was tried in one of Mr. Busk's patients by means of a thick piece of metal made hot by immersion in water. When this heater was firmly placed against the soles of the feet, more extensive movements of the hands and arms were induced than by any other excitation. The convulsive movements continued as long as the heater was kept applied, or until the heat was dissipated. A similar instrument, at the ordinary temperature, did not produce any movements after the first contact. When ice was applied to the soles of the feet, it did not produce more effect than the simple contact of any other body.

It is singular that, in this case, when the heater was applied to the feet or legs below the knees at a temperature so great that its contact was painful to the hand, no sensation of heat was perceived by the patient, although the contact of the heater was distinctly felt. This seems to indicate a difference between the nervous filaments which convey the sensation of

contact, and those which enable us to appreciate temperature. The same thing was observed in one of Mr. Grainger's cases.

6. Strychnia acts very soon and very powerfully, rendering the involuntary movements excited in the paralysed parts more violent, without causing any increase of voluntary power.

7. The reflex function, like voluntary power, is liable to exhaustion; but the sense of fatigue seems to be associated with the exercise of voluntary motions only.

The author concludes by observing, that if we consider these cases for the sake of ascertaining the circumstances under which the phenomena in question are exhibited, we find, that with the exception of the case of tetanus, they all agree in one point—namely, complete loss of voluntary power, in consequence of injury of the pons varolii, or of the cervical portions of the spinal cord.

Since his attention has been directed to the phenomena of the reflex function, he has examined a great number of cases in which there has been hemiplegia, from hæmorrhage, or softening of the brain in one of the cerebral hemispheres, but has not, in a single instance, been able to excite movements in the paralysed limbs. It appears from this, that involuntary movements can frequently be induced in paralysed limbs, when the paralysis depends on some injury to the spinal cord above the lumbar vertebræ, but that they cannot be excited when the paralysis results from hæmorrhage.

WESTMINSTER MEDICAL SOCIETY.

Saturday, March 10, 1839.

Dr. Chowne, President.

Discussion on the Finances of the Society.—Dr. Bird on the Modus Operandi of the Carbonic Acid Gas in Cases of Poisoning.

The first hour of this evening was occupied by an animated discussion on a proposal made by the Council, that for the future every member of the society should pay an annual subscription of one guinea. It appears the funds are at so low an ebb as to render such a measure as the present expedient. When the great knowledge and ability displayed in the debates of this society are considered, it will be admitted that its suppression would amount to an important professional loss; and that some energetic means should be adopted to prevent the occurrence of such an event.

At nine o'clock, Dr. Bird delivered an excellent address on the subject of poisoning by the operation of carbonic acid. He dwelt upon the contradictory notions entertained by contemporary authors, as to the effects of this gas when inhaled into the lungs. He stated that the only correct sources of information as to the morbid changes produced, were extant in the German periodicals, in which official records were made of all deaths from poison, and the history of cases were drawn up by observers who had no theories to support. Dr. Bird confined himself this evening to a consideration of the question whether carbonic acid produced death by asphyxia, or by acting as a specific poison. He repeated the experiments of Colland de la Martine, and avowed himself a convert to the opinions of that physiologist. Collard argued, that if carbonic acid gas produced death by excluding oxygen from the lungs, like hydrogen or nitrogen, it ought to support respiration when mixed with the same proportion of oxygen as was contained in atmospheric air; thus, by mixing 21 parts of oxygen with 79 parts of carbonic acid, animal life should be supported equally well as in the atmosphere. To ascertain this, Dr. Bird went over the experiments of Collard. He placed a bird in a small glass vessel containing atmospheric air, for a given period (an hour); the animal was taken out uninjured. Another bird was placed in a similar vessel, containing a mixture of 79 parts of carbonic acid and 21 parts of oxygen, and the animal was apparently dead in *seven* minutes. When taken out, it did not recover. The proportions of the two gases being reversed, and the relatives being 79 oxygen to 21 carbonic acid, the bird died in *twenty* minutes. In *five* per cent. of carbonic acid, mixed with atmospheric air, death was produced in an *hour* after the bird was inclosed. The same kind of bird, when placed in an atmosphere of pure carbonic acid, is rendered insensible by asphyxia, and, if immediately drawn out, may be restored by being supplied with good atmospheric air. Dr. Bird and M. Collard infer from these facts, that the carbonic acid acts as a specific poison. The experiment of Sir Benjamin Brodie was rendered inconclusive, Dr. Bird said, by the too rapid introduction of the carbonic acid, which asphyxiated the animal by producing closure of the glottis; and the subsequent recovery of the bird was accounted for by its restoration to a wholesome respiratory medium. Dr. Bird considered the contents of atmospheric air vitiated by the combustion of carbon, to consist of atmospheric air, free carbonic acid, and disengaged nitrogen. Certain German chemists enumerated carburetted hydrogen and a little cyano-

gen amongst the constituents; but Dr. Bird had not himself detected any of these ingredients. He thought that what they denominated carburetted hydrogen was nothing but wood smoke, which, though having an unpleasant odour, was by no means the most dangerous constituent in these vitiated atmospheres. The carbonic acid projected into the atmosphere by the slow combustion of charcoal, possessed no sensible properties, and was therefore the more dangerous. Dr. Bird now shewed that the slow combustion of charcoal in which no mirage was produced, was more copiously productive of carbonic acid gas than a more vivid combustion, in which there exists a very obvious mirage. In the first case, too, the temperature of the gas produced is scarcely higher than that of the circumambient air, and it consequently does not ascend, but by its gravity intermixes with the lower strata of the air. In the second case, the rapid combustion is attended, of course, with a high temperature; the heated gas ascends, and is distributed more equally through the chamber. Dr. Bird related the poisoning of the congregation, which occurred in Downham church, from the use of a charcoal stove, and proved by the details that the destructive effects of the gas are evidenced first within a certain circuit from the stove. He then considered at length the *modus operandi* of the poison, which, he thinks, first affects the nervous fibrils distributed in the serous lining of the blood-vessels. He then entered into a number of interesting details, which have already appeared in the Medical Gazette. The address was received with great marks of approbation, and, on the motion of Mr. Snow, the ensuing Saturday evening was devoted to the discussion of the subject.

Saturday, March 23d.

Frederick Hale Thomson, Esq. in the Chair.

Fibro-Albuminous Tumor of enormous Size.—Medullary Sarcoma.—Melanosis in all the Textures of the Body.

Mr. Davies laid before the Society a large fibro-albuminous tumor of the ovary, which he had extracted from the body of a woman 68 years of age. The tumor weighed 23 pounds, and had been fourteen years in growing to its present magnitude. Mr. Davies had divided it through the middle, and its structure was generally fibrous and hard, but certain spots existed of softer consistence than others, and two discs were evident, of about the size of half-crown pieces, where the substance had very much the character of fungus hæmatodes. There also was one cavity large enough to hold a duck's egg, which had been filled with a serous fluid. The spermatic arteries had grown to twice their natural size, and the spermatic veins to four times their normal capacity. The cavity of the uterus was filled with a similar growth to that in the ovary, and that viscus was distended to the size and shape of a cricket-ball. The patient had had no children for thirty years; she experienced no pain, but merely a sense of weight, during life. She had had formerly a prolapsus uteri, which, however, was removed as the tumor increased in size.

Mr. Hale Thomson now related a case of medullary sarcoma in the diploe of the frontal bone. Henry Davis, æt. 12, admitted into the Westminster Hospital October 30, 1838. He had a hard red tumor on the left breast, which had a slight pulsatory feel. It was first perceived six months previous to his admission, and gradually increased to the size of a walnut: his general health was good, although he had felt pain in the side as long as he could remember. Leeches and fomentations were applied to the swelling, and the following mixture ordered:—

Potass. Hydriod. 3ss. Iodin. gr. ij. Aquæ destill. ℥viij. Cap. Cochl. i. med. ter die.

In a few weeks the malignant nature of the disease became manifest, three fungoid masses presenting themselves through the parietes of the chest: he sunk exhausted five months after his admission. On examining the chest, it was found entirely occupied on the left side by a mass of medullary sarcoma. The left lung was nearly obliterated, and the heart pushed quite to the right side. In the centre of the frontal bone the disease was fully established in the meditullium, but in no other part of the head. The brain was quite natural. The heart had three small tumors in it, and the right lung was studded with sarcomatous deposits. The beat of the heart during life was of course felt on the right side.

After the members had carefully examined the sternum and the thoracic viscera, which Mr. Thomson had brought forward, the President also exhibited two specimens of malignant disease of the cranium.

Joseph Nugent, æt. 40, sent to the Westminster School of Medicine for dissection: his last place of abode was the Strand Union Workhouse, where he died Feb. 11th, 1839. The certificate of the cause of death was consumption. No previous history of the case had been obtained. The whole surface of the chest and abdomen presented a speckled ap-

pearance, the integuments being raised by small melanotic tumors. On dissection, it was found that melanosis pervaded every structure of the body. The subcutaneous cellular tissue and the glands of the axilla were loaded with masses of the disease. The peritoneum was thickly studded. The brain and its membranes were involved throughout their whole surface, and tumors as large as walnuts were found in the medullary substance of the cerebrum. Small melanotic spots were found in the substance of several of the nerves, especially in those of the upper extremities. The bones of the cranium and pelvis were much affected with the disease, and it occupied the cancellous structure of the parietal bones particularly. Cruveilhier, in his valuable work, *Anat. Pathol. du Corps Humain*, has published a plate, shewing this disease as it affects the skin and cellular tissue; and any one seeing the subject brought into the Westminster dissecting-room, would imagine it the *fac simile* of the one from which Cruveilheir took his drawing. Mr. Thomson now handed round one of Cruveilheir's plates, on which melanosis of the surface of the body was represented.

Dr. Addison congratulated the Society on the number of morbid specimens which were presented for its inspection: this augmented attention to morbid anatomy must have good effects. No one had yet succeeded in defining the limits of malignant tumor. This fact, he thought, should be considered as an opprobrium on the profession; for it was evident that a little systematic inquiry would supply this desideratum. He might suggest, that the rapidity with which a tumor was formed afforded a good index as to its malignant or innocent character. Malignant tumors were generally of rapid development.

At nine o'clock, the hour appointed for the discussion on Dr. Bird's interesting paper "On poisoning by Carbonic Acid," a vivid discussion took place as to certain alterations in the constitution of the Society, proposed by the Council, and the discussion on the scientific subject was therefore postponed to the same hour on the ensuing Saturday. IDIOS.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

March 23, 1839.

MR. GREENWOOD IN THE CHAIR.

Paper and Discussion on Curvatures of the Spine.

MR. CHAPMAN, of Tooting, read a paper on spinal curvatures.

The President drew attention to the several points touched upon by Mr. Chapman. That gentleman had confined his remarks to lateral curvatures occurring in the earlier periods of life, and not depending upon disease of the vertebræ or ligaments, but referrible rather to an enfeebled state of the muscles that support the spinal column. He had reprobated undue restraint, such as stiff stays, for the cure; he had objected to restrained postures, and unnatural mechanical appliances; he had recommended nutritious diet; ease of body; a free reliance upon the efforts of nature, aided by moderate calisthenic exercises; and attention to the general health. He had not entered into pathology, but had given the following as the principal remote causes of these lateral curvatures in young persons. "Want of air and exercise, want of sufficiently nutritive diet, want of sufficient repose, want of sufficient mental recreation, want of attention to the due performance of the natural functions; the loss of muscular power produced by tight bandages in the form of stays; and the prevalence of any habit or custom having a tendency to reduce the powers of the system below their natural and healthy standard." These points were severally worthy of discussion.

Mr. Iliff reported the case of a child two or three years old, a patient of his; there was a small projection in the back when he first was called in, and he had prescribed good diet, and attention to the general health, in preference to mechanical agents. Its parents, however, becoming impatient in a very few weeks, consulted the late Dr. Harrison, under whose entire management, compression, thumbing, recumbent position, &c. were persevered in for three years, and the child is at this moment very much emaciated and decrepit.

Mr. Leadam had seen several cases treated by Dr. Harrison which had turned out very differently to the one mentioned by Mr. Iliff. The patients were girls, of 16, 17, 18, and 19 years of age; and not only had the spinal curvature straightened, but the general health, moreover, had become remarkably established. He saw two cases treated upon the principles advocated by Mr. Chapman, without success; these were completely restored under Dr. Harrison.

Mr. Chapman allowed that mechanical means might be advantageous in some cases under judicious medical superintendence, but he objected to their application empirically, in every case indiscriminately. There was an establishment near Paris for the reception of spinal deformities, to the manager of which a prize had been given by the Institute of France

for the great success that had resulted to his patients under the plan of treatment recommended by himself to-night.

Mr. Iliff alluded to the plan of the late Dr. Cheshire, of Hinckley, who was in great repute some years ago. Steel supports passed from the pelvis to the head, and constituted the principal mechanical means employed: but in Mr. Iliff's opinion, good regimen, the salubrity of the climate, country amusements, and attention to the general health, were the more important parts of the curative treatment.

Dr. Hughes objected to a statement made by Mr. Chapman, that the higher classes of society were more liable to deformed spines than the poorer, for he had extensive opportunities for observation in a large dispensary practice, and daily witnessed deformities and spinal curvatures, especially about the lumbar region of women, arising, no doubt, from hard work, carrying children, poor living, and the like. He called to mind a case which, three or four years ago, was a picture of misery, from strumous ophthalmia, porrigo capitis, curvature of spine, swelled hips, and grievously out of health. Many unsuccessful attempts at cure had been made. Dr. Hughes recommended all stays and restraining bandages to be removed; he prescribed iodine with a bitter infusion, country air, sponging the back, &c. At the present date that child is perfectly well.

Dr. Ashwell said there were many difficulties in determining the proper treatment and management of spinal curvatures, and medical men had encountered no small degree of opposition in persuading the public not to consult quacks. But of late, great improvement had taken place, principally in the dietetic part of the treatment; wine, porter, meat, and generous food, being now allowed, where formerly they were totally prohibited. He remembered Dr. Cheshire's treatment, having, like Mr. Iliff, been at one time a resident in that part of the country; but there was something radically wrong in his plan; for the support to the back being from the pelvis to the head, whenever it was removed, the spine, having had no opportunity of acquiring strength by proper exercise, gave way, and the ultimate condition of the patient was worse than ever. The best proof of the futility of this system is, that it is now quite exploded. In the treatment of spinal curvatures Dr. Ashwell approves of generous diet, and strongly recommends the support made by Mrs. Hart, as originally invented by Mr. Callum, a medical man. This support passes from the hips to the axilla, interferes with none of the moderate exercises of the individual, is worn under the garments without inconvenience, and proves highly beneficial. Sir Astley Cooper uses this apparatus very frequently. Dr. A. has seen the calisthenic system tried, but not with the degree of success mentioned by Mr. Chapman. Mischief has sometimes resulted from undue exercise. He was also opposed to Dr. Harrison's plan of making compression, for in two cases paraplegia was super-induced, and in others the result has produced puny and decrepit bodies.

Mr. Chapman admitted that the hardships and privations of the poor in large cities tended quite as much to produce spinal deformities as the educational restraints and luxurious habits of the rich; in both cases the healthy and natural functions of the body being interfered with. But had Dr. Hughes ever seen a crooked housemaid, or a deformed country wench? A little girl, a relative of his own, about 14 years old, was the subject of a double spinal curvature. He received her into his house; there she amused herself with a child of his own, unrestrained; exercise and amusement were freely indulged in; good food was allowed, with wine and porter; and in six months she was quite well. Exercise tends greatly to strengthen and develop the muscular support of the spine. Swimming, though scarcely practicable by females, was an exercise tending to much advantage in this respect.

Mr. Iliff referred to the bent limbs of children, which so constantly straighten without splints, in further and analogous corroboration of the power of nature.

Mr. Henry had under his care a case of deformity following small-pox; the body was covered with boils, the health was deranged, and nearly every bone seemed bent. Pressure and splints were at first tried, but produced no advantage. He now fell back upon beef and mutton, and other good living, and his patient is at present nearly well. He objected to any regular system of gymnastics, because it was impossible to measure the quantity of exertion proper for every individual, but prefers leaving children to their own natural inclinations upon this point; they should also go early to bed, and always lie upon hard beds. Mr. Henry expressed a very unfavourable opinion of the plan by compression practised by the late Dr. Harrison, and considered it deficient in scientific principle.

Mr. Gaselee said it was not surprising that quacks had hitherto been much resorted to for the cure of spinal affections. The length of time required for treatment rendered friends too often impatient of orthodox measures, and induced them to

give credence to the delusive promises held forth by empirics; but it was gratifying to observe that, as this class of complaints was each day better understood by medical men, quackery was losing its influence over the public mind. From the earliest period of life children are liable to curvatures in various parts; these evidently depend, in the immense majority of cases, upon an imperfect solidification of the bones, a state analogous to a degree of mollities ossium. In these cases empirical mechanical treatment must be wrong, for that could not cause a secretion of phosphate of lime to take place in the bones in order to strengthen them: here general principles are applicable. In older life curvatures occasionally result after measles, small-pox, or other accidental febrile ailments: here, also, general principles are required, for mechanics alone can give no permanent strength to such bones. Under medical supervision, doubtless, mechanical apparatus may now and then be of service, but only as an adjunct to general treatment. Mr. Gaselee rather objected to a system of calisthenic exercise, as too extreme a measure for the general run of cases.

Mr. Leadam disclaimed any particular partiality for the principles of the late Dr. Harrison; but having seen advantage to result under his treatment, he had deemed it fair to acknowledge it. There was a material difference between the curved limbs of children and the bent spines of growing persons; the former was a softened state of the bones; the latter, as he believed, an affection of the ligaments. He quite agreed that mechanics can do nothing for cases of the former kind.

The President said that it behoved medical men, as guardians of the public health, to caution parents against the system of stays and restraints to which girls were subjected in the present day, in the process of education. Every sacrifice was made to what was termed "improvement of the mental faculties," regardless of the injury to bodily health that resulted thereby. The system of diet, too, in schools was peculiarly objectionable, and tended to promote those spinal deformities and other derangements of the constitution which were so commonly met with in such places.

Mr. Chapman made a few observations in reply, after which the Society thanked him for his obliging communication, and adjourned.

At next meeting, Dr. Babington in the chair, Mr. France will introduce the subject of Gangrene.

PARISIAN MEDICAL SOCIETY.

This society held its anniversary dinner at Lawson's hotel, Rue de Rivoli, on Wednesday last, the 13th inst. In addition to the members, comprising most of the British medical men now in Paris, were present several of the professors of the faculty, and of the hospital physicians and surgeons of Paris—including Professors Moreau, Fouquier, MM. Louis, Ricord, &c. A letter was read by the chairman from Professor Andral, expressing his regret that a professional call from Paris prevented his attendance. Dr. Mott, of New York, was also unfortunately absent in consequence of indisposition.

The president of the society, Sir R. A. Chermside, M.D. K.H., took the chair. The company consisted of 60 professional gentlemen, nearly all of whom are members of British and foreign universities. After an excellent dinner, the chairman rose and gave Her Majesty Queen Victoria, which toast was enthusiastically received. Next followed the health of the Queen Dowager and the royal family of Great Britain, which was likewise warmly cheered.

The health of the King of the French and the royal family of France was next given, and being greatly applauded, Professor Moreau rose and stated that he would not fail to make known to his royal master the cordial manner in which the toast has been drunk.

In rising to propose the next toast, "The Prosperity of the Society," the Chairman addressed the company as follows:—

Gentlemen,—I have now the satisfaction to give you another toast, which I feel confident you will likewise receive with pleasure, and drink most cordially: it is one more immediately connected with our present social meeting, and I beg permission to preface it by a few words.

It is, I presume, known to most, if not to all of you, gentlemen, that about a year since a laudable zeal for the cultivation of science generally, for the honour and advancement of our profession in particular, and a conviction of the numerous advantages which might accrue to both by an occasional union of their cultivators, induced a few British medical gentlemen, some of whom I have the pleasure to see now present, to follow the example of nearly all the great medical schools, and to attempt the establishment, in this capital, of a society, with a view to discuss medical questions in their own language, and to bring together, as much as possible, the scattered advocates of various theories and modes of practice who resort hither from every school, in order to extend their knowledge, and to test the truth of their

opinions. (Hear, hear.) These meritorious exertions have met with a success beyond what could have been anticipated, when the difficulties, now happily surmounted, are considered (Cheers.) The society has thus been formed, and the great interest that has, during the last six months, accompanied the debates, both in a practical and theoretical point of view, has led to a desire on the part of the members that the society should rank among the permanent institutions of Paris. (Repeated cheering.) From as small beginnings as these, gentlemen, great societies have sprung. (Hear, hear, and cheers.) Let us therefore indulge a hope that ours, as yet in its infancy, will, in time, through your fostering care, and under that of future members, contribute its share in exercising a beneficial influence over the progress of our art—an influence which, beyond doubt, has marked the career of the older and more celebrated societies of Europe. (Great applause.) I give you, then, gentlemen—

"The Parisian Medical Society, and permanent success to it." (This toast was received with immense cheering, which lasted several minutes.)

The Croupier, Dr. M'Moran, vice-president of the society, gave—

"The Universities of Great Britain, Ireland, and France," which he prefaced by a proper eulogium upon these time-honoured institutions.

The secretary, Mr. Acton, in proposing the medical institutions of the same countries, paid a well-merited tribute to the liberality of those of France, which had, in fact, been the cause of the very existence of the society.

Mr. Wane then gave the health of the chairman, and dilated at length upon his private and professional merits, and his public services in the Peninsular, &c. campaigns; and called upon the company to express their warmest thanks for the public spirit with which he, the chairman, had contributed his utmost to the establishment and the support of the society.

MM. Moreau, Louis, and Ricord, on their healths being drank in connexion with several French medical institutions, expressed their great gratification at seeing evinced by the present meeting, that so much cordiality and brotherhood existed between the members of the profession in the two countries, and hoped that one great object—namely, the discovery of truth—would ever unite the learned in all nations.

After several other speeches, from Dr. Bennett, Mr. Strange, Mr. Dundas, Mr. Bennett, M. Ricord, Mr. Hey, and others, principally expressive of the great benefits which science in general, and medicine more particularly, derive from societies like this, the meeting broke up; having given satisfactory proof, by the cordiality and good feeling which had existed throughout the evening, that the society was now established on a firm and permanent basis.

EXTRACTS

FROM THE PROCEEDINGS OF THE

PATHOLOGICAL SOCIETY OF DUBLIN.

ENCEPHALOID TUMOR OF THE ABDOMEN, WITH OBLITERATION OF THE VENA CAVA.

Dr. Graves exhibited an abdominal tumor, which lay upon the upper part of the aorta and vena cava. The front of the latter vessel was almost completely incorporated with the cyst of the tumor, and its interior was obliterated by a substance quite analogous to that of which the tumor was composed. In this case the tumor had a distinct, but not diastolic pulsation, accompanied by bruit de soufflet, while the patient lay on his back, which ceased when he assumed the erect position. The left epigastric, mammary, and intercostal veins, were in a varicose condition. (Museum, Park Street.)

FRACTURE OF THE TIBIA AND FIBULA; WITH LACERATION OF THE ANTERIOR TIBIAL NERVE, PRODUCING SEVERE NEURALGIA OF THE LEG.

Mr. Smith presented to the society a preparation, shewing an oblique fracture of both bones of the leg, united with considerable deformity. The anterior tibial nerve had been torn across. The extremity of the upper portion of the nerve had become adherent to the upper fragment of the tibia, while the lower portion, along with the tendons of the extensor muscles, was united to the extremity of the lower fragment of the bone.

The long-continued existence of neuralgic pains, of a severe character, rendered amputation necessary two years after the receipt of the injury. The neuralgic pain extended from the knee to the seat of fracture; the limb below this was nearly destitute of feeling. (Museum, Richmond Hospital.)

DISEASE OF THE SCIATIC NERVE.

Mr. Carlile exhibited a specimen of disease of the sciatic nerve. A tumor, about three inches in length, occupied the upper part of the nerve, apparently formed by several successive depositions in and upon the substance of the nerve; a second, of smaller size, was seated a little above

the division of the nerve; and at intervals along its trunk were several smaller nodules, some lying on the surface, others in the centre.

The interior of the nerve presented a striated appearance, from the intermixture of the morbid structure with the original texture of the nerve. The plantar muscles resembled the surrounding cellular tissue in colour, and were soft and flaccid; the specimen was taken from an adult female, who had never complained of pain along the course of the sciatic nerve, or any of its branches, but had lost the power of walking. (Museum, Park Street.)

CYSTS CONTAINED IN THE PARIETES OF THE HEART.

Mr. Bigger exhibited a heart, the parietes of which contained a number of cysts, about the size of a small bean: some were merely inserted between the carneæ columnæ, while others were imbedded in the muscular substance of the heart, particularly towards its apex; they contained a fluid of a purulent aspect; the patient from whom the preparation was taken died of phthisis pulmonalis, and never complained of any symptom connected with disease of the heart.

OBLITERATION OF THE ABDOMINAL AORTA, THE LEFT ILIAC AND FEMORAL ARTERIES.

Mr. Hutton exhibited a preparation, in which the abdominal aorta, for two inches above its bifurcation, the left iliac, and femoral arteries, were filled with fibrine; the lining membranes of the iliac and femoral vessels were here and there vascular and thickened, but the coagulum was not connected to the vessel by any false membrane; the coagulum in the aorta was deprived of colouring matter, and contained a small quantity of thick purulent fluid in the centre; its lining membrane presented no signs of inflammation; the iliac and femoral veins were also filled with coagula, but did not appear to be inflamed.

The individual had died of gangrene of the extremities, affecting in the first instance the left foot; the process of obliteration of the left iliac artery was distinctly traced during life; the gangrene of the right lower extremity did not begin until after the obliteration of the aorta.

CONTAMINATION OF THE FŒTUS BY VENEREAL POISON.

Dr. Evory Kennedy presented a fœtus exhibiting the characteristics of venereal taint, and born about the sixth month, the mother being affected with decided syphilis, which had been contracted, according to her statement, about two months previous to the birth of the child. Dr. Kennedy observed, that if the mother's statements were to be believed, they would go to establish the communication of syphilis to the fœtus in utero in an advanced stage of its development.

PECULIAR ULCERATION OF THE EYELIDS, EXTENDING TO THE BONES OF THE NOSE AND ORBIT.

Mr. Smith exhibited a cranium, shewing the extensive ravages committed by a peculiar form of ulceration, which began in the lower eyelid; the entire of the malar and maxillary bones of one side had been destroyed, as had also large portions of the frontal, ethmoid, sphenoid, nasal, lachrymal, and spongy bones; the mouth, orbit, and nose, formed one immense cavern, which communicated with the cavity of the cranium by a large perforation in the orbital plate of the frontal bone. Mr. Smith also presented drawings illustrating the partial progress of the disease, from its commencement up to its fatal termination; he mentioned the characteristic feature of the ulcer, and referred to the description given of the disease by Dr. Jacob, in the fourth volume of the Dublin Hospital Reports. (Museum, Richmond Hospital.) — *Dublin Journal of Medical Science.*

BALSAM OF COPAIBA IN DYSENTERY.

Influenced by a consideration of the beneficial effects of copaiba in diseases of some of the mucous membranes, and by the testimony to its utility in dysentery borne by Pemberton, Cheyne, Good, Armstrong, Abercrombie, and other British authorities, Dr. La Roche, of this city, was induced some years ago, to resort to this balsam in a case of dysentery which had proved intractable to the ordinary means. "The effects obtained were," he says, "such as to encourage me to make further trials of the remedy; and after duly reflecting on the issue of those cases, and on the phenomena presented, not only in obstinate but in ordinary cases also, I have no hesitation in expressing the opinion, that, so far as my experience goes, the copaiba is entitled to the praise it has received, and consequently deserves a trial in some forms of the disease in question. It is hardly necessary to say," he adds, "in the present state of our knowledge respecting the uncertainty of the action of medicinal agents generally, that the copaiba cannot be expected to succeed in every case, and that it should not be prescribed in all stages of the complaint. Like other remedies, it will, in this disease, as in other forms of mucous inflammation, often fail, even when used

under the most appropriate circumstances; and, so far as I can decide, it would be improper to have recourse to it in the commencement of the attack, before the violence of the inflammation has been reduced by general and local depletion, by diluent drinks, tepid baths, fomentations, mild purgatives, ipecacuanha, opiates, emollient injections, and blisters."

But even in cases in which depletion has been premised to reduce the force of the inflammation, some discrimination is necessary as regards the employment of the copaiba, because it sometimes disagrees with the stomach, producing nausea and vomiting. When this is the case the remedy must be discontinued.

"Judging from what I have had occasion to observe," Dr. La Roche further remarks, "I think I may safely say, that the balsam is as serviceable in the secondary stages of acute dysentery as in the chronic form, and that it will be found particularly useful when the stools are rather copious, and contain a large proportion of mucus, or glairy matter, mixed with blood. When the griping and tenesmus are still very severe, it will be necessary to combine the medicine with a portion of opium; otherwise it may be used without, in an aromatic mixture—in cold water, or in an emulsion. The opium also may be required if the copaiba disorders the stomach, and if this effect can justly be attributed to the simple irritability of that organ. In general it is advisable to give the copaiba in moderate and repeated, rather than in large doses; as it is thus less apt to produce griping pain, to purge, and to increase fever. But whether the quantity be large or otherwise, no time must be lost in suspending its use if the symptoms of increased gastro-intestinal irritation and febrile excitement supervene.—*American Journal.*

HOW TO GET RID OF A PATIENT.

The town of Basle has lately lost Dr. L. P. Stickelberger, aged eighty-one, the senior member of the faculty of medicine. He enjoyed a great reputation, acquired by immense knowledge, long experience. and indefatigable zeal in the practice of his profession. Dr. Stickelberger was as eccentric as he was learned and humane. One day being wearied by the complaints of an old woman who had accosted him on the middle of the bridge over the Rhine, in order to set forth all her numerous ailments, he told her to put out her tongue, and shut her eyes, and when the docile patient had obeyed his prescription, he quietly withdrew, leaving her with her mouth open.—*Gazette des Hôpitaux.*

ACUPUNCTURATION.

To the Editor of the Medical Gazette.

Sir,

May I beg permission to correct an error or two into which your correspondent "Lector" has fallen, touching my communication on Acupuncture.

1st. I do not claim for Mr. Hunter the credit of having first introduced acupuncture as a remedial agent into these countries; but I do claim for him the merit of having first introduced it as a substitute for the highly dangerous practice of scarifying, with the lancet or scalpel, anasarcous extremities; and I conceive no better proof is required than that such practice was unknown to Sir B. Brodie, and I presume also to the learned author of the Surgical Dictionary, from whose extensive learning, so valuable an improvement could scarcely have failed to be noticed, had it been known to the profession.

2d. If "Lector" will revert to my note, he will see that I do not in the least insinuate that Dr. Graves had appropriated this beneficial improvement to himself. My object was to state the source from whence we had received this very decided improvement, and to give the honour to whom, I believe, it is justly due.

I am, sir,
Your obedient servant,
J. Armstrong.

Gravesend, March 21, 1839.

WEEKLY ACCOUNT of BURIALS.

From Bills of Mortality, *Mar.* 26, 1839.

Age and Debility	24	Fever, Typhus	1
Apoplexy	1	Hæmorrhage	1
Asthma	3	Heart, diseased	1
Cancer	1	Hooping Cough	6
Childbirth	3	Inflammation	9
Consumption	22	Bowels & Stomach	1
Convulsions	8	Brain	1
Croup	1	Lungs and Pleura	1
Dentition	1	Measles	1
Diabetes	1	Paralysis	1
Dropsy	8	Small-pox	1
Dropsy in the Brain	5	Unknown Causes	80
Fever	4		
Fever, Scarlet	2	Casualties	5

Decrease of Burials, as compared with the preceding week . . . 178

NOTICES.

We can have nothing whatever to do with Dr. Warburg's "Specific Drops for Fever." Let him tell what they are, and how they are prepared, and we may then possibly be induced to try them.

We are obliged to postpone the Medical Missionary Society in China till next week.

Wilson & Son, Printers, 57, Skinner-st., London.

[EXTRA LIMITES.]

OBSERVATIONS

ON

AN ARTICLE CONTAINED IN THE DUBLIN JOURNAL OF MEDICAL SCIENCE FOR JANUARY 1839 (BEING NO. 42), INTITLED,

"*An Examination of Dr. Hamilton's Letters in defence of his Opinions, especially in reference to the Management of the First Stage of Labour.* By EDWARD W. MURPHY, A.M., M.D. late Assistant Physician to the Dublin Lying in Hospital."

Addressed through the medium of the LONDON MEDICAL GAZETTE to the readers of the DUBLIN JOURNAL OF MEDICAL SCIENCE.

By JAMES HAMILTON, M.D.

Professor of Medicine and Midwifery, &c. in the University of Edinburgh.

DR. HAMILTON most reluctantly feels compelled to make a public complaint against the Editors of the Dublin Journal of Medical Science. In doing this he is not actuated by the sole motive of defending himself against what he considers gross injustice (for in his station such considerations are of little import), but by an anxious wish to endeavour to deter those editors from acting in the same manner to individuals who may not be so independent of their censure or their praise as he feels himself to be.

In that journal, No. 37, there appeared an article by Dr. Collins, misrepresenting some published opinions of Dr. Hamilton. The editors readily admitted a reply; but they subsequently received and published an article from Dr. Collins, most discreditable, not only to him, but to their own journal. On this article Dr. Hamilton felt it his duty to animadvert, and at first the editors refused to admit his reply, on the allegation that they did not wish to continue the controversy: apparently, however, conscious of the injustice to such a proceeding, they afterwards agreed to insert it, and accordingly it appeared in the number for November, 1838.

In that reply Dr. Hamilton concluded by declaring that it was impossible for him to have any further communication with Dr. Collins, thus, as he believed, putting an end to the controversy.

The reader may judge of his surprise when he found that the editors of that journal had admitted in their number for January 1839, an article by Dr. Murphy, formerly assistant to Dr. Collins, reiterating all the calumnious charges against Dr. Hamilton's opinions, and defending some practical precepts of a most dangerous tendency, which are advocated, and had been fatally acted upon, by Dr. Collins.

It became Dr. Hamilton's duty to reply to this new controversialist, and accordingly he wrote the following pages, and sent a proof copy in print to the editor of the Dublin Journal of Medical Science, from whom he received a letter, dated March 6, "respectfully" declining the insertion of his article. Before being favoured with that communication, he had learned that the Dublin Journal for March 1839 contained a long tirade from Dr. Collins, which, of course, Dr. Hamilton is precluded, by his recorded declaration, from ever looking into. He put it, however, into the hands of two intelligent friends, who stated (after bestowing an epithet upon it which he does not choose to repeat), that it was utterly unworthy of notice.

The charge which Dr. Hamilton now feels himself warranted in making against the editors of the Dublin Journal of Medical Science is, that they have given insertion to observations misrepresenting and falsifying his doctrines, and have refused to allow him an opportunity of defending himself. And he has a still more serious charge to prefer against them, viz. that of sanctioning the mis-statements of Dr. Collins and Dr. Murphy, and, by endeavouring to suppress Dr. Hamilton's exposition of the dangerous tendency of their practical precepts, of misleading the inexperienced practitioner of Ireland, and thus do incalculable mischief.

Following the example of the late Dr. Gooch of London, Dr. Hamilton published, in 1836-7, for the information of the profession, the result of his experience,

under the title of Practical Observations upon various subjects relating to midwifery.

The object of that work was to state the reasons which had induced Dr. Hamilton to consider the ordinary practice in many cases of difficulty and danger to be erroneous, and to suggest certain changes, the utility of which had been confirmed by his experience. While he undertook this task he did not anticipate that he could have been suspected of intending to represent those who continued to pursue the practice to which he objects, as either ignorant or prejudiced. He was quite aware that it is the duty of medical men, when they enter on the exercise of their profession, to adopt the rules which they have been taught; and he was equally aware that not a few continue to pursue the same routine, inattentive to the varieties and phenomena of human disease.

In the second part of his Practical Observations, Dr. Hamilton has noticed and animadverted upon (as it was his right and his duty to do) the opinions of Dr. Osborne, Dr. Denman, Dr. Davis, Dr. Burns, Dr. Dewees, and other esteemed authors; and when it was actually in the hands of the printer, Dr. Collins's Practical Treatise was sent to him by his bookseller. He considered it incumbent on him to notice that work, on account not only of the respectable station which Dr. Collins had held, but also of the valuable practical information it communicates. Dr. Hamilton has given all due credit to Dr. Collins for the candour and value of his records, and in dissenting from him on practical points, has endeavoured to use the most respectful language.*

The reader may therefore judge of Dr. Hamilton's surprise when he found, in the Dublin Journal of Medical Science for March 1837, an article by Dr. Collins, containing animadversions on the doctrines of his Practical Observations, founded upon most erroneous views, and containing most calumnious charges against his practical precepts, alleging "that they are calculated to urge junior practitioners to a hasty, unnecessary, and consequently injurious interference," and holding them out "as cruelly encouraging the destruction of the child,"—"as being fraught with much hazard to the patient," &c.

An attack so unexpected and so uncalled for, necessarily compelled Dr. Hamilton to point out the mis-statements, and to endeavour to prove that his precepts, instead of being of the dangerous tendency asserted by Dr. Collins, are confirmed by the cases published by that individual himself, as satisfactorily as if those cases had been fabricated for the express purpose. At the same time he declared, that if his opinions had been fairly quoted, he should have left the profession at large to judge of their validity. This Dr. M. has called, "*inviting a controversy*," and "*a novel mode of proceeding*."

Indeed!—defending himself against misrepresentations and calumny, is held out as "inviting a controversy," and "a novel mode of proceeding!"

When Dr. Collins, by garbled extracts, substitution of words, and the interpolation of expressions not contained in the text, deliberately misrepresented Dr. Hamilton's opinions and precepts; and when, upon those manufactured misrepresentations he founded most injurious accusations, could it have been imagined that Dr. Hamilton should submit tacitly to such conduct? And when it is considered that the only possible object which could have induced Dr. Hamilton to publish his Practical Observations, was a conviction that the result of his experience might benefit the profession, and of course the public, it would have been a most extraordinary circumstance, if Dr. Hamilton had not stept forward to rebut Dr. Collins's charges.

The notice which Dr. Hamilton was thus compelled to take of the cases which had occurred in the Dublin Lying-in Hospital, it appears has had an effect which he had never contemplated. It has impressed on the minds of Dr. Murphy and his late master, the delusion that Dr. Hamilton's object was not to defend himself from misrepresentations and calumnies, which is really the truth, but to censure the practice adopted during their incumbency in the Dublin Lying-in Hospital.

Any argument addressed to persons under such a delusion*, would be labour

* In consequence of this hurried reference to the Practical Treatise, Dr. Hamilton fell into a very unintentional error, which he has noticed in his letter dated July 4th, 1837, to the editor of the LONDON MEDICAL GAZETTE, paragraph 27, in the following words:—"In illustration of my objections to Dr. Collins's rule, I referred (in the 2nd part of my Practical Observations) to several of his recorded cases; and I find that in doing so I had committed a gross error, for which an apology is due. This error, which was most unintentional, can be readily accounted for. I had made a memorandum of all the cases (in his work) in which it appeared to me that there had been an injurious delay in affording assistance; and I had afterwards selected the cases where there had been disproportion, but I had forgotten to mark off those latter, unluckily; therefore both lists were printed, the original one in page 105, and the selected one in page 162. Under the hurry of my professional duties, this and several other typographical errors were overlooked."

* The reader will find proofs of this delusion through the whole of Dr. Murphy's article; but it is fairly avowed in page 439, Dublin Medical Journal, No. xlii.

lost; but as they have published their complaints, it is incumbent on Dr. Hamilton to give some explanation to the readers of the Dublin Journal of Medical Science.

Firstly, Had Dr. Hamilton undertaken to review the "Practical Treatise," and had he selected a few of the worst managed cases as proofs of the usual treatment of patients in the Dublin Lying-in Hospital, then, indeed, there might have been cause for complaint. But instead of this, every case referred to by Dr. Hamilton serves to illustrate those precepts which Dr. Murphy and his late master have so much misrepresented and calumniated.

Secondly, Those individuals, under the delusion which misleads them, have forgotten that books are the property of the public, and that, provided the meaning of the author be not perverted, every purchaser is entitled to animadvert upon their contents.

Thirdly, The same delusion has prevented their being aware, that when a medical author objects to any particular mode of practice, he does not necessarily censure the practitioner who had adopted or sanctioned it.

None of Dr. Hamilton's pupils ever heard him hint at a censure upon Sir Richard Croft for his treatment of the Princess Charlotte. Sir Richard, on that occasion, followed the rules he had been taught. Dr. Denman, his preceptor and father-in-law, had, in strong language, maintained that the first stage of labour should be allowed to continue for an unlimited time, and with this lesson regulating his conduct, Sir Richard did his duty faithfully, according to the best of his judgment. Although, therefore, no blame can be imputed to Sir Richard individually, it does not follow that a public teacher is bound to conceal from the notice of his pupils an explanation of the errors committed in the treatment of that interesting case.

Practically considered, all published cases should be regarded by a teacher and an author as illustrating his precepts, either as examples or as warnings; and provided the selection be appropriate, and the quotation faithful, there can be no ground for complaint. Dr. Murphy has not only dissented from this general proposition, but has expressed his displeasure at the same case having been repeatedly referred to, evidently from his not understanding that an individual case may illustrate as many precepts as there may have been errors committed in its treatment.

Under the delusion that Dr. Hamilton had reviewed and censured the practice of the Dublin Lying-in Hospital, Dr. Murphy has reiterated the absurd charge, that Dr. Hamilton ought to have previously published an account of the cases which had occurred in the Edinburgh General Lying-in Hospital; and this he has had the hardihood to do after Dr. Hamilton has CONVICTED* his late master of a deliberate falsification of the records of that hospital, by suppressing half of a sentence, and by interpolating certain words.

When the reader considers that Dr. Hamilton, in his "Practical Observations," has only incidentally *referred* to some of the cases which had occurred in the Dublin Lying-in Hospital, and has quoted only one of them, he will at once see the unfair advantage which has been taken of his Observations on Hospital Practice, notwithstanding his having protested against such a discussion, as having no relation to the object of his work. No professional man doubts that patients in the higher ranks require a different mode of treatment, both in diseases of the general system, and in the act of parturition and its consequences, from that which is adapted to those in the lower ranks.

With these preliminary remarks, Dr. Hamilton now proceeds, *firstly*, to lay before the reader a few specimens of the most flagrant misrepresentations with which he charges Dr. Murphy. *Secondly*, to shew that several of Dr. Murphy's incidental remarks are contrary to the established principles of midwifery; and, *thirdly*, to prove that Dr. Murphy, in the article referred to, has advocated modes of practice in cases of difficult and dangerous labours, which are of the most injurious tendency. If Dr. Hamilton make out these propositions to the satisfaction of the reader, he will feel himself exonerated from noticing any article which may in future appear under the signature of Dr. Murphy or his coadjutors.

I.—*Specimens of Dr. Murphy's Misrepresentations.*

Dr. Murphy,—trusting that his readers may not be aware, that while two practitioners agree in a general principle of practice in certain cases, they may propose different, and even opposite means for carrying the object of that principle into effect,—has taken much pains to identify Dr. Hamilton's directions for the management of the first stage of labour with those of Dr. Burns.

The deviation from the usual mode of practice in the management of the first stage of labour, which Dr. Hamilton claims to have introduced, is limiting the duration of that stage where there are regular labour pains to twelve or fourteen hours, and it is upon this principle that Dr. Burns and he are agreed. As Dr.

* Dublin Medical Journal, No. 41, p. 197.

Burns has expressed it, page 498, ninth edition,—"Dr. Hamilton makes it a rule to have the first stage of labour finished within a given time."

But Dr. Murphy cannot fail to know (for indeed he has himself stated it), that while Dr. Burns advises dilating the os uteri, by insinuating the fingers and opening them, Dr. Hamilton's directions are, to support the os uteri during the pains, by pressure on its edge. It is, therefore, most uncandid to allege identity of practice; and all Dr. Murphy's declamation upon this subject must necessarily fall to the ground.

In saying this, Dr. Hamilton gives no opinion on the propriety of Dr. Burns' practice, having never tried it, except in cases of hæmorrhage, &c., where the artificial opening of the os uteri became a matter of urgent necessity,

After having thus so unfairly confounded two different modes of practice, Dr. Murphy does not scruple to accuse Dr. Hamilton of ambiguity of language, an accusation which has at least the merit of novelty, and is to be especially noticed by and by.

In his review of the notice which Dr. Hamilton has been forced to take of the cases of laborious labours which had occurred in the Dublin Lying-in Hospital, Dr. M. has not only suppressed certain most essential facts of those cases*, but has also misrepresented Dr. Hamilton's remarks. It is, however, only necessary to give the following as examples of the whole:—

A case is much commented upon, page 426, Dublin Journal, No. 42, recorded in the Practical Treatise, page 465, No. 210, which Dr. H. admits that he has designated as a shockingly mismanaged one. Instead of quoting the authentic record of that case (as Dr. Hamilton had done), Dr. Murphy has given a most garbled and disingenuous report of it.

He says,—"She was of a most fretful and anxious disposition, and had been in labour from the 20th to the 23d of February. The action of the uterus throughout was very inefficient; there was no dilatation on the 20th. On the 21st, the os tincæ was dilated to the size of a crown; on the 22d, nearly the same; but during that night, though the uterus continued to act imperfectly, it was nearly completed, excepting towards the pubes, where a portion still covered the head of the child (a fact which Dr Hamilton seizes upon to attribute the delay to interception of the cervix); the pulse after this became hurried; breathing difficult, and great anxiety, with considerable debility. She was then given an opiate, in the hope that the uterus would act with more effect afterwards; rest was produced for some time, but when the pains returned, the same symptoms appeared in a more urgent form. The head was immediately lessened, and almost every bone removed, before it could be delivered; and even after it was brought down, much caution was required to free the shoulders and body. She expired almost immediately, for which no cause is assigned."

Now Dr. Hamilton charges Dr. Murphy with having suppressed certain important facts of this case, which are necessary to render it intelligible, and also of having founded, upon the suppression of those facts, certain injurious accusations against him.

Firstly, Dr. Murphy says, that the woman had been in labour from the 20th till the 23d of February, whereas the record bears, that "*she was admitted on the 17th February, with the liquor amnii dribbling away,*" and that "*pains began on the 18th, and continued on the 19th.*"

Secondly, he has suppressed, that "*on the 20th the head of the child was found low in the pelvis, the edges of the os uteri thin and lax, the pains had returned in an urgent form,*" and that "*the woman had expressed herself as suffering the most acute distress.*"

Thirdly, in the authentic record, it is stated, that "*on the morning of the 23d the pelvis felt of sufficient size to allow the head to pass, and all that seemed wanting to effect this was, that the pains should become expulsive;*" a circumstance carefully concealed by Dr. Murphy.

Fourthly, the following report of the case at 9 P.M. of the 23d, is also suppressed by him,—"*On examination, the head was found in the same situation as in the morning; and had it not been that the mouth of the womb still remained over it next the pubes, an attempt would have been made to deliver with the forceps.*"

Fortified by the suppression of these important particulars, Dr. M. has had the extraordinary temerity to prefer the following accusations against Dr. Hamilton*:—

Firstly, he says, page 430, "Dr. Ha-

* Thus *inter alia*, in page 425 (Dublin Journal, No. 42), in a reference made to case No. 150, Practical Treatise, page 464, Dr. Murphy has suppressed the most important fact, that the *scalp of the infant was* ALLOWED *to protrude through the external parts for nearly twelve hours.*

Again, in the same page of the Journal, in alluding to case No. 509, page 470, he has concealed, *that the bladder of the woman had been forced down before the head of the infant*, and also that the woman had already had two still-born children.

* The accusations are not enumerated in the order in which they are made by Dr. Murphy, for it did not suit his mode of warfare to be regulated by the *lucidus ordo*.

milton gives this case as being of 96 hours' duration, though there was no dilatation of the os tincæ till the 21st, 60 hours before delivery." Even *he* durst not have made this allegation if he had not suppressed the two first facts above presented to the reader, as stated by Dr. Collins.

The second accusation is in the following words, page 429,—" Dr. Hamilton asserts the cause of delay to be the interception of the cervix uteri, though at no period of the labour did the pains become expulsive, and throughout the uterus acted imperfectly; the head, therefore, could not have been forced down upon the pubes, so as to intercept the cervix. Dr. Hamilton has therefore assumed a condition of which there is no evidence."

Really it is difficult to find terms which a gentleman would choose to employ in repelling this accusation. The suppressed facts, Nos. 2, 3, and 4, of the authentic record of the case, completely establish Dr. Hamilton's assertion, for the head of the infant is described as having been low in the pelvis, with the os uteri undilated on the 20th of February; and on the 23d, it is reported that the mouth of the womb still remained over it next the pubes.—Could any man but Dr. Murphy venture to assert, that the uterus was *not* interposed between the head of the infant and the bones of the pelvis?

Thirdly, Dr. Murphy says, page 431,—" It might have puzzled those to whom Dr. Hamilton addresses himself, to explain how he could accomplish so much under so many difficulties as this case presented. To complete, in little more than two hours, a labour in which the pains were so weak as scarcely to produce any effect upon the os tincæ, and the utmost difficulty in extracting the child, even when the head was broken up, is a degree of skill which would require something more to make it intelligible than mere assertion."

Had not Dr. Murphy deliberately concealed from his readers, that upon the morning of the 23d February, " the pelvis felt of sufficient size to allow the head to pass; and that all that seemed wanting to effect this was, that the pains should become expulsive," he could not have preferred this very modest insinuation. All that was necessary on the morning of the 23d, was to clear the head from the uterus, and to apply the forceps.

There are some incidental remarks hazarded upon this case by Dr. Murphy, to be noticed in illustration of the second proposition. It is only necessary, therefore, to add, that the explanation of this most melancholy case is abundantly simple, though it certainly did puzzle Dr. M. and his late master. The liquor amnii was discharged on the 17th of February, and pains began on the 18th. The liquor amnii having been discharged, the uterus necessarily became in close contact with the person of the infant; and when, on the 20th of February, the child's head was found low in the pelvis, the uterus must have been interposed between it and the bones of the pelvis. This Dr. Hamilton has called intercepted, and he sees no reason to alter the expression. " On the morning of the 23d the pelvis felt of sufficient size to allow the head to pass, and all that seemed wanting was, that the pains should become expulsive." At this period, instead of using the forceps, which would have supplied the place of the pains, the poor woman was left to her fate. After this the pulse became hurried, with difficult breathing, &c., and an opiate was given, which had the effect of suspending the uterine action, while the pressure of the head of the infant for many hours, produced such swelling of the soft parts lining the pelvis, as to oppose a serious obstacle to the extraction of the infant. Of course, this swelling subsided after death, and could not be discovered by dissection; but that such is the only explanation of this case is indisputable, for there was no actual deficiency of space.

With the following statement, Dr. Hamilton concludes his evidence of Dr. Murphy's habitual misrepresentations:—

He says, page 422,—" From the recoveries are omitted by Dr. Hamilton, Nos. 725, 1053, and 1041, also quoted for a different purpose by Dr. Hamilton, so that even this list of Dr. Hamilton's when corrected, gives only four deaths and 14 recoveries, where the infant had been some time dead before extraction."

This paragraph relates to Dr. Hamilton's allegation, that, notwithstanding the high value attributed to the use of the stethoscope in the Practical Treatise, there are 19 cases where the sufferings of the poor women were allowed to continue for hours after the infant's death had been ascertained by that instrument; and of the 19 cases, that 8 of the women died, and 11 recovered. This assertion, so strongly denied by Dr. Murphy, Dr. Hamilton fearlessly repeats, and can find no difficulty in satisfying the reader.

In 6 of the 8 cases of death (of the women), viz.: No. 126, page 158; No. 32, page 300; No. 605, page 473; No. 665, page 478; No. 817, page 477; and No. 1091, page 483; it is distinctly stated, that the death of the infant had been ascertained by the stethoscope some hours previously. In a seventh case, No. 173, the words are,—" the child was evidently dead;" and in the eighth case, No. 1038

the expression is,—" as the fœtal heart had ceased to act," &c. Can any one doubt that these are cases where the stethoscope had been applied?

Dr. Murphy has asserted, that from the recoveries are omitted Nos. 725, 1053, and and 1041. Throughout the whole of his article Dr. M. has drawn largely on the credulity and supposed ignorance or carelessness of his readers; but it is almost incredible, that he should have made an assertion, the verity of which, any one who has the Dublin Medical Journal for November, 1838, No. 41, could at once ascertain, by turning up page 196. The reader will find in that page, line 8, the case No. 725, and in the same page, line 13, the case 1041, enumerated among the recoveries. As to No. 1053, that could not be included, because it is expressly stated, page 482, Practical Treatise, " that the head was lessened *as soon as the child's death was ascertained.*" It could not, therefore, be cited as a case where the sufferings of the poor woman were allowed to proceed for hours after the stethoscope had indicated the death of the infant.

But not contented with this extraordinary imposition on the credulity of his readers, Dr. M. has deliberately accused Dr. Hamilton of having enumerated among the deaths two cases, No. 32, T, and No. 1091, U, which, in his former letter, were quoted to prove that the patients' lives were brought into great jeopardy, while the child, according to the evidence of the stethoscope, continued to live, and he refers (in the foot-note) to the Dublin Journal, No. 41.

No such cases are recorded in the Journal No. 41, but in No. 38 they are cited; and in page 223 of that No. of the Journal, it is specially stated (in reference to No. 32, page 300, Practical Treatise) that the woman was sent into the hospital in *severe* labour, *with a countenance expressive of great anxiety, pulse* 120, *the fœtal heart acting with rapidity*, and that after twelve hours' suffering, *the action of the fœtal heart having ceased to beat*, she was delivered by the crotchet, and died in fourteen hours. As to case 1091, the record bears, that the fœtal heart was quite audible till eight hours previous to the birth. This woman died on the eleventh day.

If these be not cases where the poor women's sufferings were allowed to continue for hours after the death of the infant had been ascertained by the stethoscope, Dr. Hamilton certainly does not understand the English language. The same cases, as already stated, may be cited, as illustrating several practical precepts. There can be no doubt that the cases No. 32 and 1091 shew that the poor women's lives were brought into jeopardy before the death of the infant, and there can be can be as little doubt that after the death of the infant had been ascertained, the unfortunate creatures were allowed to suffer unavailing pains for hours.

In actions at law, whether civil or criminal, witnesses sinning against the ninth commandment, which is universally admitted to be a transgression of a heinous character, incur the heaviest penalties. But the influence of their transgression in any civil or criminal action is limited to that individual case.

How different is it where the medical profession is concerned! A medical professor of an established University, after having been engaged in extensive practice for nearly half a century, had published the result of his experience for the information of his brethren, and for the benefit of the public. Two physicians who had held the repectable situations of master and assistant to the Dublin Lying-in Hospital have been proved to have deliberately misrepresented that work, by means of garbled extracts and other artifices. Many of the junior members of the profession may have been thus prevented from consulting the work in question, and hence the means of saving the lives, both of infants and of women, in certain cases of difficulty and danger, may remain unknown to them. But not contented with misrepresenting Dr. Hamilton's opinions and precepts, by which they prevent the junior members of the profession from consulting his works, they have, by fraud in language, endeavoured to hold out his precepts for the management of laborious labours, to those who may have chanced to have read them, as inculcating a " hasty, unnecessary, and consequently injurious interference, as meddlesome midwifery," &c.

II.—*Evidences of Dr. Murphy's Ignorance of the Principles of Midwifery.*

On the first perusal of Dr. Murphy's paper, there were so many proofs of a deliberate intention to impose upon the credulity of the readers of the Dublin Journal, that it was Dr. Hamilton's impression that the incidental remarks betraying ignorance of the fundamental principles of midwifery, were simulated for the same purpose.

A careful review, however, of the practice adopted in the Dublin Lying-in Hospital, while Dr. Murphy was assistant, now enables Dr. Hamilton to understand that the incidental practical remarks alluded to are the conscientious opinions of that individual.

In page 434, Dr. Murphy has the following words:—" Pressing on, or supporting the anterior edge of the os tincæ would,

of necessity, act against the head, just in the same way as if two fingers were applied to the head itself, and the difference in both cases, where the uterus and not the fingers effect the dilatation, is so slight as to be immaterial; but when the practice is applied where there are no strong forcing pains, and the fingers are, as it were, to supply the place of the uterus, it in no way assists us in understanding how it is to be done."

This sentence seems to import that it is Dr. Murphy's opinion, that pressing with two fingers on the head of the infant during the labour pains has the same effect as pressing upon the anterior edge of the os uteri, he having evidently not understood that during labour the head of the infant is passive, and that the uterus is the active agent.

When the uterus is interposed between the head of the infant and the bones of the pelvis, the influence of the pains is prevented from extending to the os uteri. Supporting the edges of that part during the pain, counteracts this interruption, as every one who has adopted the practice well knows.

Again, in page 424, Dr. Murphy uses the following words:—"In order to make this objection intelligible, he (Dr. H.) asserts the cause of delay to be the interception of the cervix uteri, though at no period of the labour did the pains become expulsive, and throughout the uterus acted imperfectly; the head, therefore, could not have been forced down upon the pubes, so as to intercept the cervix."

From this sentence, it is evident that Dr. M. believes that the uterus cannot be interposed between the head of the infant and the bones of the pelvis, *without there having been expulsive uterine contractions.*

If he had not been taught, that occasionally, when the liquor amnii has been discharged before there be any dilatation of the os uteri, the infant's head, included in the uterus, sinks low into the pelvis, so as almost to fill the cavity, the record of the melancholy case, No. 210, might have opened his eyes to the fact. He has, indeed, endeavoured to conceal this from his readers, by suppressing sentences, No. 1 and No. 2, already referred to in the history of the case.

Dr. Murphy, in allusion to that most mismanaged case (No. 210, page 465), has the following observations:—Dublin Journal, No. 42, page 429,—"Perhaps Dr. Hamilton will allow, that the only utility of opiates, in cases of protracted labour, is to suspend inefficient uterine contractions, which wear out the strength of the patient, without advancing the delivery, or to render these contractions more powerful, and there are no marks by which the one result or the other may be calculated upon."

Here is an attempt to justify, upon Dr. H.'s own authority, the use of the opiate in that melancholy case. The reader will find, on referring to the 2d part of the Practical Observations, page 89, a very different rule for the exhibition of opiates.

Dr. Hamilton's words are—"The *safety* and the utility of opiates must be very carefully considered before being prescribed. If there be pain in the head, or any circumstance whatever which might render the further protraction of labour for ten or twelve hours injurious, opiates are most *dangerous.*"

It is to be noted, that the woman had been in labour for several days, and that "the pulse had become hurried, breathing difficult, accompanied with great anxiety and considerable debility," before the opiate was administered.

Another evidence of the truth of the proposition under consideration is selected out of several which might be adduced.

In commenting upon a case where Dr. Hamilton applied the forceps, Dr. M. has the following expressions, page 433:—

"It must also strike the intelligent practitioner, that the forceps employed for an hour and a half, compressing such a head, would be a very likely way to produce such an effect (alluding to the infant having been born in a state of suspended animation, from which it was recovered); besides, it is not probable that the forceps could be applied without moving the head from its position; and still less, that some meconium would not have escaped if at all pushed back, had the child been previously in danger." By the above quotation, it appears that a person who had been assistant-physician to the Dublin Lying-in Hospital is ignorant of one of the rules for the use of the forceps, with which every tyro of the profession is familiar—viz., that during the interval of working, the pressure of the instrument upon the head of the infant is to be removed. Compression of the head of the infant, by means of the forceps, for an hour and a half, was never heard of in this part of the world.

As to the head being moved from its position by the application of the forceps, that is an effect of the application of the instrument totally unknown here. If, indeed, such forceps as those which had been employed in the Dublin Lying-in Hospital, during Dr. Murphy's attendance, had been used in the case alluded to, the introduction of the instrument would have occasioned much pain, and probably danger *; but even a bungling operator could

* In the Practical Treatise, page 12, it is stated, that the blades of the smallest sized forceps used

not have moved the head from its position; for the record bears (what is the real truth), that the head completely filled the pelvis.

Marvellous, indeed, are Dr. Murphy's remarks on the use of the forceps. He denies (Medical Journal, No. 42, page 442) that, by means of the forceps, the head of the infant can be safely diminished by approximating the parietal bones. He * asserts, that the pressure of the instrument must destroy the life of the infant, and must be dangerous to the parent; and he appeals to a grossly mismanaged case, that of Lady T.

In his abuse of Dr. Hamilton's precepts, he has very innocently let out the fact (page 443) that "Dr. Hamilton, in fifty years' practice, where he had charge of the patient from the beginning, only used the forceps 35 times—not once in the year." Will any other individual than Dr. Murphy or his late master venture to allege that this example is encouraging "junior practitioners to a hasty, unnecessary, and consequently dangerous interference?"

As Dr. Murphy has, relying on the carelessness of his readers, rung the changes upon the ambiguity of Dr. Hamilton's language, it is necessary to settle that question before proceeding farther.

By this accusation, he probably expected to withdraw his reader's attention from the frauds of his own language, and that of his late master. He has, indeed, not attempted to vindicate his master's garbled extracts, substitution of words, &c., but he has improved upon his plan, by boldly suppressing facts, and preferring groundless charges. This may be the effect of the delusion under which he labours; but it is absolutely necessary that it should be brought under the particular notice of the professional reader.

Language may be ambiguous to the reader or to the hearer, in consequence of his own ignorance. A discussion upon the principles which regulate rent, though expressed in the most appropriate language, would be totally unintelligible to a person who had not studied that intricate question; and the same observation is applicable to various scientific subjects, such as astronomy, navigation, &c. Dr. Hamilton addressed his practical observations to the profession; and it must be perfectly evident, that if the readers of his work are ignorant of the elements of midwifery, his language may appear to them to be ambiguous.

A person who believes that pressing with two fingers on the head of the infant, during the first stage of labour, is tantamount to pressing on the edges of the os uteri; that the interception of the cervix uteri between the head of the infant and the bones of the pelvis cannot take place without the previous occurrence of forcing pains; that the application of the forceps in cases where the head is wedged in the pelvis must necessarily move the head of the infant from its position; that the forceps cannot safely lessen the head by approximating the parietal bones; and that the use of that instrument by a person who has been taught the rules, and who employs forceps of a proper construction, must necessarily occasion danger both to the infant and to the mother; cannot be expected to understand the practical precepts of an experienced practitioner, however clearly expressed, and however intelligible they may be to those who have been properly educated.

III.—*Proofs of the dangerous Tendency of the Modes of Practice in laborious Labours, advocated by Dr. Murphy and his late Master.*

Before proceeding to the consideration of the third proposition which Dr. Hamilton has undertaken to prove, viz., that certain modes of practice in cases of laborious labours, advocated by Dr. Murphy, in the article referred to, are of a most dangerous tendency, it is necessary to notice Dr. Murphy's remarks on the records of the cases which had occurred in the Dublin Lying-in Hospital during his incumbency, as published by his late master.

He begins by saying, page 423, that "Dr. Hamilton may have supposed, that because the cases he has been pleased to select are not incorrectly quoted, there can be no cause of complaint; but in some of them he has obviously misunderstood the details. The omission of the disproportion in one case (O) * we have seen,

in Britain, even when completely closed, measure from three and one-eighth to three and a half inches.

* He refers to the authority of Baudelocque in confirmation of his allegation, that the head cannot be safely diminished by the forceps, forgetting that each blade of Baudelocque's forceps is nearly a quarter of an inch in thickness. He might have known that Madame la Chapelle, even with the French forceps, repeatedly succeeded in bringing a living infant through a defective pelvis.

* Dr. Hamilton finds that he has quoted two cases under the letter O, but he presumes that the case alluded to by Dr. Murphy is recorded in page 473, No. 665, of the Practical Treatise; and a transcript of that record will shew the manner in which Dr. Murphy chooses to misrepresent, on every occasion, the cases referred to by Dr. Hamilton.

"Was 35 hours in labour of her first child, for the last 24 of which the head had not made the least progress. Her strength being exhausted, and the child some hours dead, as ascertained by the stethoscope, delivery was effected by lessening the head.

"She continued to recover favourably till the fourth day after delivery, when she was suddenly

is enough to furnish Dr. Hamilton with an argument. Similar instances occur in other cases; for instance, where the treatment is not mentioned, he assumes it not being adopted (C. D.), though Dr. Collins quite sufficiently explains what the general treatment was; nay, on the very strength of the omission, Dr. Hamilton endeavours to make the practice contradict the precept."

Again, he says: "When the number of cases Dr. Collins has brought forward is considered, the necessity for brevity in each, and that most of them are considerably curtailed, in order to state the particulars in as condensed a form as practicable, some errors in sense might be pardoned; and if they appeared to be treated in opposition to the practice stated in the text, the fact of their being thus curtailed would be a sufficient reason to raise a doubt as to their accuracy; but when, without there being any positive errors, it appears that the omissions in one case (O) —an ambiguity in another (I)—the misconception of a third (K)—form the ground-work of Dr. Hamilton's commentaries, it only shews how completely his zeal in defence of his opinions has obscured from him the most palpable mistakes in the evidence he has adduced in their support."

Much as Dr. Hamilton has had occasion, in his professorial capacity, to point out the inaccuracy of reasoning of medical authors, he fairly owns that he has seldom met with any thing like the remarks in the foregoing quotation.

Firstly, it is asserted that quoting cases correctly does not exclude complaint on the part of the author.

Secondly, that some errors of sense, if in opposition to the practice stated in the text, should raise a doubt as to the accuracy of the details of the cases.

Thirdly, that the omission in one case, and the ambiguity in another, and the misconception in a third, being most palpable mistakes, should have been understood and corrected by Dr. Hamilton.

Hitherto Dr. Hamilton, in common with the rest of his professional brethren, has given credit to Dr. Collins for the candour and fidelity of his details, and has believed his assertion, page 86 of the Practical Treatise, that on studying the records of the Dublin Lying-in Hospital, "the reader will be thus enabled to form his own conclusions, both as to the practice adopted in each case, and as to the general result."

If the particulars of each case have not been accurately detailed, how is it possible for a reader to understand the practice adopted? If there be errors of sense, omissions and ambiguity in language, of what value can the recorded cases be? Dr. Murphy says, that "in one case, although bleeding is not mentioned in the treatment, that is no evidence that the patient was not bled;" and in another case, that "although, in describing the appearances on dissection, there is no mention of deficiency of space in the pelvis, it is not fair to conclude that there was no such deficiency."

The accusation which Dr. Hamilton prefers against Dr. Murphy and his former master, is, that they have not quoted fairly his Practical Observations, and they now retort upon him, that he has quoted accurately the cases published in the Practical Treatise, but that he should have corrected the sense—that he should have supplied the omissions, and should have cleared the ambiguity of the records; presuming, as a matter of course, that Dr. Hamilton, being a native Caledonian, must have the second sight—a surmise against which he takes the liberty to enter his very solemn protest.

It is only necessary to add, that much as Dr. Hamilton has to complain of the conduct of Dr. Collins, he must have better evidence than such a witness as Dr. Murphy has proved himself to be, before he can question the accuracy of the published cases of the Dublin Lying-in Hospital. They bear internal evidence of candour and fidelity.

For the menagement of laborious labours, the Practical Precepts which Dr. Hamilton's experience has led him to adopt and to recommend, are, that it is in the power of the practitioner to foresee and to prevent the occurrence of injury to the infant or to the mother; that when the infant's head comes within reach of the forceps, that instrument should be had recourse to before there be any risk of injury either to the mother or to the infant; and that, when called to a case of protracted labour, which had been mismanaged, the forceps or the crotchet must be employed, in reference chiefly to the state of the mother.

These precepts are stigmatized by Dr.

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attacked with the most acute pain in the abdomen, which resisted the most active treatment, and she died in 48 hours.

"On dissection, a large quantity of a deep straw-coloured fluid was found in the abdominal cavity, and all the viscera were extremely vascular. The uterus was soft, but in other respects healthy. The vagina was in a sloughing state."

It is impossible to imagine a more disingenuous allegation than than of Dr. Murphy, in asserting that there had been a disproportion in this case, which had been omitted. If there had really been a disproportion, it was unjustifiable to allow the infant's head to make no progress for the last 24 hours; and the fact of the sloughing of the vagina is a proof that the continued pressure of the infant's head upon the parts lining the pelvis had been not only injurious, but fatal.

Murphy, as inculcating meddlesome midwifery, and by his late master, as cruelly encouraging the destruction of the child.

Very different are their precepts (supported by their practice in the Dublin Lying-in Hospital), for they declare, that "artificial assistance during labour should never be given till symptoms of danger take place; that in laborious labours, the death of the child always precedes any symptoms of danger on the part of the mother, and that, under no circumstances is it justifiable to destroy a living infant, until the state of the mother absolutely require interferenee."

The first of these propositions (Dublin Journal of Medical Science, for March 1837) is expressly stated in allusion to the cases which had occurred in the Dublin Lying-in Hospital (p. 43). The words are, "Nor was artificial assistance ever attempted till the safety of the patient absolutely required it."

This explains the appalling fact, that in 16,414 women delivered in that hospital during seven years, while in laborious labours, the forceps were only employed 24 times, the perforator and crotchet (or, as Dr. Murphy chooses to call it, excerebration) were had recourse to 79 times, it being admitted, at the same time, that the greatest degree of deficiency of space ever witnessed, was found to be $2\frac{1}{2}$ inches between pubes and sacrum.—(*Vide* Practical Treatise, pages 15, 22, and 302.)

But this is not all; every sixth woman on whom the forceps was used, and every fourth woman on whom the perforator and crotchet were had recourse to, died; 8 out of the 24 infants, or 1 in 3, extracted by the forceps, were still-born. Thus, in 103 cases of laborious labour (of the second or third orders), 24 women and 87 infants were lost; making 111 deaths in those cases of protracted labour.

Dr. Hamilton's conviction is, that during the last half century, there have not been fifty crotchet cases in Edinburgh and its vicinity, making a population of at least 120,000; and he founds this opinion upon the fact of his having been very generally consulted upon all such cases of difficulty. Yet Dr. Murphy and his late master boast of the successful result of the practice in the Dublin Lying-in Hospital.

Assuming, then, that Dr. Murphy vindicates this precept, Dr. Hamilton finds it impossible to use too strong language in reprobation of it. The common sense of mankind has led to the universal belief that it is as much the duty of medical practitioners to prevent as to cure diseases. *Venienti occurrite morbo*, is a maxim adopted by all civilized nations.

If this principle be applicable to the treatment of ordinary diseases, it must certainly appear not a little wonderful that it should be declared by Dr. M. and his late master to be inapplicable to the management of women in labour. Would any sane man employ a regularly educated medical practitioner to take charge of his wife when in labour, if he were not impressed with the belief that that practitioner could foresee and prevent the occurrence of circumstances endangering the health or life of the mother or child? Would he not, were he assured that no artificial assistance were ever to be had recourse to till symptoms of danger on the part of the mother should become manifest, hold it to be a wise measure to recur to the ancient practice of putting his wife under the care of an old woman, with directions to send for medical assistance "as soon as the safety of the patient absolutely required it?"

The second practical precept of Dr. Murphy is, that in laborious labours the death of the child always precedes any dangerous symptoms on the part of the mother.

He says (p. 420), "It has been PROVED, as Dr. Collins observes, that when the patient has been properly treated from the commencement of her labour, the death of the child takes place in laborious and difficult labours before the symptoms become so alarming as to cause any experienced physician to lessen the head."

Words can scarcely express the feelings suggested by the above remarks. It is here asserted that it has been PROVED, that where a woman had been properly treated, the death of the infant always takes place before symptoms of danger occur; yet Dr. Collins has recorded, page 158, No. 126, that a woman was 59 hours in labour of her first child; that for the last 24 hours the uterus acted with tolerable regularity, the pains being at times strong, causing the head to press with much force against the ischia, where it remained stationary for the greater part of that time; that her pulse was very much increased in frequency, and that the external parts were œdematous before the proper sssistance was given, while he admits, at the same time, that the action of the fœtal heart had been distinctly audible in the right iliac region six hours before delivery; and when it is added, that after death the vagina was found in a state of slough, &c. can it be doubted that symptoms of danger must have taken place long before the fœtal heart had ceased to act?

In the case (p. 473, No. 665) already quoted in the foot-note of p. 43, it is impossible to believe that the effusion into the abdomen, and the sloughing of the

vagina, had suddenly taken place after the death of the infant, for it is quite evident that the pressure of the child's head for twenty-four hours had occasioned inflammation of all the parts lining the pelvis.

One other case will be sufficient to convince the reader of the fallacy of this dogma of Dr. Murphy and his late master.

"The woman was 56 hours in labour; uterine action, until within six hours of the expulsion of the child, was extremely feeble, with long intervals. The head remained high in the pelvis, and although the ear could not be reached, it was evident the head had sufficient room to pass. The fœtal heart was quite audible till within eight hours of her delivery. She died on the eleventh day.

"On dissection, the only morbid appearances found were in the bladder and vagina. In the bladder the mucous surface was covered with yellow lymph, and it contained a quantity of muco-purulent fluid. In the vagina opposite the right ischium, a portion appeared to have been destroyed by slough, but its texture did not in other parts seem materially injured, although of a darker colour than natural."

It must be obvious that in this case much injury had occurred before the death of the infant.

On the whole, the proposition under consideration is not only untenable, and is contradicted by the records of the Dublin Lying-in Hospital, but is of a most mischievous tendency, as it is calculated to lull young practitioners into a delusive confidence in the safety of their patient.

Dangerous as the preceding precepts are, the third proposition advocated by Dr. Murphy, while it is equally calculated to mislead the junior members of the profession, is so preposterous, that if Dr. Murphy's own words could not be brought forward to prove it, no individual who had been taught the elements of midwifery (by a competent teacher) could have supposed that any man who had ever seen practice could have hazarded it.

Dr. Murphy, in page 419, Dublin Medical Journal, says, "No practitioner is justified in destroying a living infant, without his having sufficient evidence to prove it actually necessary; as that necessity must arise from actual danger to the mother, so the evidence must be positive, not imaginary; or, in other words, *it must depend upon the presence of dangerous symptoms to the mother,* not upon the conviction that they would have presented themselves, had not the child been destroyed."

Before it was possible for Dr. Murphy to have written this sentence, he must have obliterated from his mind all cases of deficiency of space, and all mechanical causes which occasionally render it impossible to extract an entire infant through the natural passages. He must also have presumed that his readers must have been equally under the influence of the waters of Lethe.

Reasoning with such a person would be a hopeless task, and therefore Dr. H. presents the reader with the following recorded case, as completely shewing the effect of adopting the precept under consideration:—

P. 301, Practical Treatise, No. 3, the patient "was admitted, Sept. 2, at 9 P.M., in labour of her first child. The person in attendance, on making an examnatiion, found an extremity low down in the vagina, which was thought to be the knee. She remained till three o'clock next morning quite free from pain, when the uterus began to act briskly, and, on repeating the examination, the elbow was discovered presenting. The body was now so closely wedged in the pelvis that it was impossible to turn with safety. The thorax was accordingly perforated, and the breach brought down with *immense difficulty*, owing to the extreme deformity of the pelvis. It required most laborious exertion, *for two hours and a half*, to complete the delivery, which was only accomplished by taking the child in pieces. She died in four hours."

On dissection, there was observed a considerable laceration between the cervix uteri and vagina to the right side.

"The pelvis, which was preserved, measured only 2½ inches from pubes to sacrum. This was by much the most defective pelvis I ever met with in the hospital."

This record does the highest credit to the candour of Dr. Collins, and completely refutes the injurious insinuations of Dr. Murphy, p. 423, No. 42, Dublin Medical Journal, already noticed.

Indeed it would have been impossible to have fabricated a case more strikingly illustrative of the dangerous tendency of the three practical precepts advocated and acted upon by Dr. M. and his late master. Thus six hours were allowed to elapse after it had been ascertained that the labour was preternatural, before any assistance was offered, during which time the uterine action was suspended, and of course the operation of turning might have been safely performed. Not that the infant could have been saved, but that after the feet had been brought down, its head might have been opened, and the poor woman's life might have been preserved.

Instead of this, no assistance was offered till the body of the infant was so closely wedged in the pelvis that it was impossible to turn with safety, and then, after a

most laborious exertion, continued for two hours and a half, delivery was completed by taking the child in pieces, in the progress of which the uterus was burst. One that has not been in practice cannot depict to himself the dreadful tortures to which this poor creature must have been subjected, and yet she had repaired to an hospital munificently endowed, where she had a title to expect every possible attention.

As a general rule, governors of institutions for the treatment of diseases, ought to interfere as little as possible with the duties of the medical attendants; but when such dangerous principles of practice as those avowed by Dr. M. and his late master have been acted upon, and have been followed by such fatal results, it is high time for the governors of the Dublin Lying-in Hospital to inquire into this most important subject.

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LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Diuresis saccharina.—This form of disease, usually known as the *diabetes mellitus* of authors, is perhaps as formidable, so far as health is concerned, as any in the whole catalogue of human maladies. It has hitherto resisted every plan of treatment, and, when once established, has invariably proved fatal. It is true that instances of cure are recorded, but these are readily explicable upon the fact that the real nature of the case has not been sufficiently understood. Authors have included, under the generic term *diabetes*, two species—the diabetes *insipidus* and the diabetes *mellitus*. The former, it is more than probable, has been frequently misunderstood, and confounded with diseases of a very different and comparatively innocent character. We have already noticed that an increased flow of urine may arise from a great variety of causes, transient in their nature, and no way injurious in their effects. But when the diuresis is either of the character described in the last lecture, or partakes of that which we are now about to describe, the disease is much more dangerous, and requires prompt attention.

The functional symptoms are few, and, indeed, sufficiently characteristic, at least so far as to put us on our guard and excite us to a more close and minute investigation. Cullen defines diabetes—"Urinæ plerumque præternaturalis, copia immodica, profusio chronica." The mellitic—"Diabetes cum urina odoris, coloris, et saporis mellei." The insipid—"Diabetes cum urina limpida non dulci*." If we meet with a patient complaining of voracious appetite, insatiable thirst, a dry or viscid mucus adhering to the lips and angles of the mouth, a harsh and dry state of skin, with emaciation, we may fairly suspect the presence of this disease in some form or other. When to these we add an excessive discharge of urine, and especially of a sweetish taste, we can have no doubt of the nature of the complaint. The disease is usually attended with considerable languor, and disinclination to every sort of exertion; affections of the stomach, such as great uneasiness and distress after meals; the mouth parched; the tongue white and foul, sometimes preternaturally clean and red, such as indicates great gastric irritation; pain and weakness of the loins. Aretæus tells us that the intestines feel as if burning—Τὰ σπλαγχνα καιεσθαι δοκεουσι; and he says that neither shame nor any other consideration can restrain them from voiding the urine. But if, he continues, they should retain the urine for a little time, the loins, testicles, and hips swell, but on voiding the urine the swellings immediately subside.

There is also very frequently a considerable sense of irritation and uneasiness, sometimes even of inflammation, about the urethra, especially the external orifice; anaphrodisia; a sense of chilliness of the feet and surface; œdema of the extremities; flatulence, with acid eructations; eyes dull and painful; colic†; vertigo;

* Nosologi Method., vol. ii. pp. 243, 244, 245.

† Οὐ γαρ διαλείπουσι οὐρέοντες ἀλλά ὄχως περ ἐξ ἀφέξιος ὀχετῶν απαυστος, ἡ φορή. —De Caus. et Sig. Morb. Intur, lib. ii. cap. 2.

cephalæa; gums spongy, frequently ulcerated. The respiration difficult, on even slight exertion; a sense of weight at the præcordia, and tenderness upon pressure; sighing, spirits exhausted, and the mind weak and peevish. The bowels unusually costive.

As the disease advances, a number of complications ensue, and other organs and functions become involved. Hence dropsies and pulmonic affections supervene, and speedily put an end to the miseries of the patient.

With the symptoms above enumerated, we find the urine voided in extraordinary and most unaccountable quantity. The diuresis is excessive, and the calls so frequent and so urgent that the patient is almost incessantly passing water. The quantity passed in a given time, has, in some instances, amounted to thirty pints in the twenty four hours; and this has continued for weeks, and even months. The urine, it has been remarked, greatly exceeds the whole of the ingesta, and Aretæus states that the urine even greatly exceeds the drink.

The urine varies in appearance; sometimes it is of a pale straw colour, sometimes it has a sort of bluish greenish cast, and sometimes it approaches to an opalescent appearance. One, however, of the most important sensible characters is its sweetness. This sweetness, however, may in some cases alternate with a bitter taste; as I shall have occasion to notice presently. Such is a summary of the leading symptoms of this dreadful affliction.

Causes. — With respect to the causes, they are involved in considerable obscurity. Aretæus observes that any acute disease may be the cause of diabetes, if terminating with a crisis it should leave behind it latent in the body any thing malignant which will ultimately terminate in diabetes. "Nor is it incredible (he says) that some of those poisons which affect the bladder and kidneys may become the cause of this disease*." However, it seems questionable how far other diseases of the above character act in inducing true diabetes. Fevers are the most likely of all acute diseases to bring on diseases of the urinary system, and such may readily be often confounded with diabetes. Sydenham, in his letter to Dr. Brady, in reference to the epidemics which prevailed in 1675 and 1680, says, that they were sometimes followed by diabetes, especially when an improper mode of treatment had been adopted. "Nonnunquam accidit," he says, "etsi perquam raro, ut senes, qui diu hoc morbo antea laborarunt, ac interea venæsectionibus et catharticis imperite fuerint mulctati, in *diabetem* incidant, etiam febre jam perfecte fugata*." Fevers, we know, especially the more acute forms, are attended with a diminution of the urinary discharge; but as the fever advances, pale-coloured urine is frequently voided in considerable quantity, and which frequently continues after all the febrile action has subsided, and appears to be the consequence of nervous debility, and very different, indeed, in its character from true diabetes.

Of febrile affections, none seem to affect the urinary functions more powerfully than the exanthemata; and of these scarlatina, measles, and to which we may add, erysipelas, appear to have the most tendency of this sort. Indeed, I have already shewn you how frequently the urine is loaded with albuminous matter in scarlatina; and it is not improbable that a tendency to a diabetic condition, or this diathesis even, may be generated during these fevers. Sydenham, however, has left us no record from which we can judge of the nature of the disease which he has termed diabetes; for he gives no particulars, nor does he even mention the quantity or any of the qualities of the urine, "Etenim," he says, "cum sanguis eorum abhinc debilitatus assimilandis succis ei illatis prorsus impar reddatur, iidem per vias urinarias crudi adhuc et incocti exitum sibi quærunt, proindeque præ ingenti urinæ copia, quoties eam reddunt, excretâ sensim vires labefactantur, et quasi substantia corporis per hanc cloacam exinanitur†."

Exposure to cold, it has been said, sometimes excites diabetes; and Dr. Marsh mentions a case of confirmed diabetes in which the origin of the affection was distinctly traced to exposure to cold during a storm at sea, in which the loss of the vessel was momentarily anticipated. "This patient was four days at sea, and during the greater part of the time was to his knees in water; he was chilled with cold, and for the last two days there was not any supply of provisions. After quitting the vessel he felt himself constantly chilly, and could not by any means (to use his own expression) get warmth into him. Before this time he conceived himself in perfect health, but immediately afterwards decided symptoms of the affection in question manifested themselves ‡."

It seems rather doubtful that mere exposure to cold, even under the most aggravated circumstances, could induce a true diabetes, that is, a saccharine condition

* Ibid.

* Epist. 1, Responsor. Op. Th. Sydenh. p. 387.
† Ibid, p. 388.
‡ Dublin Hosp. Rep., vol. iii., p. 430.

of the urine with diuresis. Dr. Prout, in commenting upon this case, urges the fact, that "Dr. Marsh had at the same time under his care, in the hospital, another man who had sailed in the same vessel, and was exposed to the same circumstances as the one who had diabetes. He, in like manner, for some time afterwards felt cold and chilly; but the disease with which he was attacked was not diabetes, but intermittent fever, to which it seems he had a predisposition*." In commenting upon this statement, Dr. Prout notices the difficulty of allowing cold to have been the cause of the diabetes in this case, especially when he alone of all the passengers, who no doubt must have been similarly exposed, was affected with diabetes; and this difficulty can only be explained by the supposition that he must have been either actually labouring under the disease at the time of the exposure, in consequence of which the symptoms were merely aggravated, or he must have had a strong hereditary predisposition.

An hereditary disposition to this disease seems to have been well established. Dr. Prout witnessed four instances of this hereditary disposition. I know of three instances in which the parents laboured under diabetes; and on examining the urine of some of the children an excess of urea was always indicated on the addition of nitric acid. Dr. Prout's cases are very interesting confirmations of the existence of an hereditary disposition to this affection. The first was that of a young gentleman, whose mother and uncle had died of the disease, and apprehensive that he himself suffered from the same complaint, Dr. P. examined the urine, and found no saccharine matter, but a considerable excess of urea; and further, two individuals of the same family, a brother and sister, died of the disease. Another, a lady, about 50, had either a brother or sister who died of it; and in the third instance a young girl, about 10 years old, who died of it; the father had died two or three years previously. The fourth was that of a gentleman, aged 54, whose father was said to have suffered from diabetes for many years before his death; and it is a singular circumstance that the former's son, aged about 30, complained much of being troubled with lithic acid gravel.

I have myself met with a case very lately, in which I was applied to, in consequence of an incontinence of urine, as it was represented. It was that of a boy about 11 years of age, who was in the habit of constantly wetting the bed, insomuch that neither entreaties, threats, nor even severe punishment, as it was stated, had been sufficient to break him of his filthy propensities. I examined several specimens of this boy's urine; it was of a pale reddish colour, somewhat like ale; smell aromatic; taste bitter and saline; specific gravity, 1026·37; and on adding nitric acid, crystallization, with an abundant crop of urea, in the course of from five to ten minutes. On inquiry, I learned that the father died of consumption, previously to the appearance of which he had been subject to frequent urinary affections, stated to be gravel; but that the great-grandfather had died of diabetes. Some instances of a somewhat similar description have occurred, and they seem to leave no doubt that a predisposition exists, and that this is often of an hereditary character. You will often, perhaps, in the course of your practice, be called upon in reference to the cases of children, especially at school, supposed addicted to the filthy practice of wetting their beds; but always look upon such cases with suspicion. The properties of the urine will often solve the difficulty; and it will always prove satisfactory, even to the complainers, to discover "that the poor child has not been so much to blame." Now, in such cases, always inquire whether this habit be confined to the time when the sufferer is in bed, or whether it occurs in their waking and conscious moments; for this seldom takes place under ordinary circumstances, at least when the patient is awake and conscious.

Among the causes, also, may be enumerated intemperance, and the immoderate use of spirits; excessive evacuations of every description; severe labour; poor, scanty, and acescent diet; injuries of the spine, and of the system of nerves arising from the cord. In such cases various exciting causes may act, by calling the morbid disposition into activity.

Aretæus mentions a curious cause, namely, the bite of a serpent, named *dipsas**. He states this to be a reptile, and that whomsoever it bites, is afterwards seized with insatiable thirst, and other symptoms of the character of diabetes. However, his description is not very perfectly that of diabetes, and it is probable that the irritation excited inflammation and fever, and that the indulgence in drink consequent upon it produced a diuresis.

Diagnosis.—We have already stated that many cases occur in which a flow of urine in excessive quantity takes place, and that

* On the Urinary Organs, p. 68.

* Ατὰρ ει ἐδὰκη τις υπὸ της Διψάδος τοινδε του ἕλκεος ἑ παθη.

such cases are very different in their symptoms and consequences from diabetes. This propensity to characterize an excess of the urinary discharge as diabetes, has led to numerous errors, and to great disappointments. It has been proposed by Dr. Prout to limit the term diabetes exclusively to a saccharine condition; and instances of this condition are occasionally met with in which there is no increase in the quantity of urine, but, on the contrary, it even falls short of the natural proportion. Dr. Prout, indeed, first suggested the probability of such cases; he says, "In endeavouring to explain the affections accompanying diabetes, we must consider the disease in a twofold light; first, as a simple saccharine condition of the urine, without any regard to its quantity; and, secondly, as a similar condition of the urine, accompanied by more or less of *diuresis*.

"With respect to the first of the above forms of disease, no one seems hitherto to have distinctly described it; its existence, therefore, at least as an original form of disease, must, in the present state of our knowledge, be considered as somewhat hypothetical. That such a form of the disease, however, can exist, seems to be proved by the fact, that diabetes may be so far cured as to be literally reduced to the state in question; that is to say, the quantity of urine may be rendered natural, and all the usual symptoms of the disease be much relieved, and *yet the urine remain saccharine*. Now if a common case of diabetes can be reduced to this state, there seems to be no reason why the disease may not originally exist, for some time at least, in a similar form*." In confirmation of these views, Dr. Prout states that he saw a case in which the symptoms of diabetes in the worst form had supervened, in which, long previously, the patient's attention had been excited by the qualities of the urine, before its quantity became remarkable. In this case it was observed that, wherever the urine happened to fall on the dress, an imperfect crystallization took place, and the part became stiff and clammy, and attracted the dust.

It occurred to me to meet with two cases in Essex — one of which, at my request, consulted Dr. Prout — of very nearly the complexion mentioned by Dr. Prout; and both occurred very nearly at the same time. The first case was that of a married woman, about two or three and forty years of age, who applied to me on the 7th May, 1829. This lady, when young, was a very slender and delicate-looking girl, but when I saw her she had grown now very lusty, and to all appearance seemed in excellent health. She has, however, complained at various times, but within the last two years has felt a great deal worse. She attributes the origin of her disease to a confinement, about twenty-four years since, when she had a very bad labour.

At present she complains of pains in the loins and region of the kidneys, extending along the course of the ureters to the bladder. The left side was swollen, from the ribs down to the ilium and pubes. There was great irritation and pain in passing water, with pain in the genitals; great difficulty in retaining the urine when any call to pass it arose; on coughing it passed involuntarily. Tongue dry and sulcated, not particularly red; skin dry, harsh, and feverish; thirst; bowels costive; appetite good; catamenia regular; occasional headache; cough but slight; no expectoration; nervousness.

I had two specimens of this lady's urine, the one passed before breakfast, the other after dinner. The colour pale straw, or inclining to green; the smell of the morning not sensibly sweet; that passed after dinner had somewhat of the sweetish smell of newly-mown hay. Taste of the morning urine not sensibly sweet; that passed after dinner had something of it. Now in this case there was evidently nothing in the general symptoms that would have led even to the suspicion of a diabetic condition of the urine, and consequently this case might have run on, if neglected, till severe diuresis with emaciation; and the symptoms previously mentioned unequivocally pointed out the nature of the complaint.

On the 9th May, in the year 1829, just two days after the above, the following case occurred:—J. P—r, a merchant dealing largely in wine, &c., and farming a large property of his own, applied to me complaining of symptoms of indigestion. This gentleman was of a full habit, very lusty and corpulent, and in no way of an emaciated appearance; of a florid complexion; and any thing but the appearance of bad health. Nothing certain or precise could be ascertained relative to prevailing family diseases. His mother or grandmother died with pulmonic symptoms, which were considered of a consumptive character; and a niece of his was affected with an abscess in the loins, but of what precise character or description I could not discover.

He consulted me once before in a casual sort of way, but without entering into the

* Page 65.

history of his case. On the present occasion he complained of a puffy swelling of the right knee, but which was not painful. He complained, however, of pains generally through all the limbs, and was considered labouring under rheumatic gout, to which, although much addicted to field sports, especially shooting, he was very subject. He complained greatly of fever, as he termed it, in his stomach; the lips dry and parched; tongue dry, coated with fur, sulcated; saliva viscid, and concreting in the angles of the mouth; thirst urgent; appetite good, but not voracious; no emaciation; bowels regular; pulse 96; respiration free, regular, and equal; the urine natural in quantity; nor did he feel any uneasiness nor any irregularity in the functions of the urinary system. In this case, therefore, it is evident that there was nothing which could lead to any suspicion of the state of the urinary system.

At my request, however, upon this occasion at my house, he passed about half a pint of urine, which was of a yellowish green colour, the specific gravity of which, by the ouro-barometer, was 1·035. From the high specific gravity, I pronounced the great probability of the saccharine state of this fluid; and, on trial, my prognosis was verified, for it was distinctly sweetish to the taste; and by the treatment described in a former part of these lectures, sugar was readily obtained, and in tolerably large quantity.

The specific gravity of the urine in the case previously mentioned was found, on examination, to be—of that passed in the morning, 1029·5; of that passed in the afternoon, 1·037. It was distinctly saccharine, contained but little saline matter, and but very slight traces of urea. On the 9th, I had two other specimens—one, passed the day before, was of a pale colour, and somewhat opalescent, and a slight tint of green, smell peculiar, and what I occasionally name "diabetic;" it had no remarkable taste, but appeared to contain some oily or fatty-looking matter; the specific gravity 1·026; reddened litmus paper, and contained a considerable excess of urea; and there was also a very small quantity of a reddish looking crystallized matter fell to the bottom of the vessel in which the urine stood, and which, on examination, proved to be principally lithic acid.

The second specimen, passed on the 9th, in the morning, by the same patient, was clear, and almost like spring water; could just be said to have a greenish tint; and, after standing at rest for some time, a slightly buoyant mucous cloud gradually subsided; the surface presented a greasy appearance, owing to a fatter sort of film floating upon it. This specimen was devoid of taste and smell; specific gravity 1012, and faintly reddened litmus paper. Urea present, but not in absolute excess.

On the 10th May, as before, I obtained three specimens of urine from Mr. P——r. The first, passed in the night, had a specific gravity of 1·035; the second, early in the morning, had a gravity equal to 1·0367; and the third, passed after dinner the same day, had a specific gravity of 1·040. All three were of a pale straw colour, perfectly transparent, and free from cloud or mucus; were distinctly sweetish to the taste; and contained a proportion of fatty or oily matter.

On the 12th, three specimens, which all presented the same general characters: one, passed the night before, sp. gr. 1·041, reddened litmus, and contained sugar; that passed the morning previous had a sp. gr. = 1·040, and lithate of ammonia separated in small quantity—it was sweetish; that passed on the morning of the 12th presented the same sensible characters—sp. gr. 1·035; urea separated from this specimen in abundance; on the addition of nitric acid, in an hour became an almost solid crystalline mass. This gentleman was put upon treatment which I shall describe to you in its proper place; my object at present is merely to point out the variations which occur in connexion with alterations in the specific gravity. Thus it was frequently found that the specific gravity of the urine varied; sometimes high—above 1·035—and then the sugar predominated, and urea in proportion disappeared, although never wholly absent. Again, the specific gravity diminished, approaching 1·030, when the urea predominated and became abundant, and in proportion the sugar disappeared. As I had an opportunity of examining the urine in this case very frequently, perhaps it may prove of advantage to present a sort of tabular view of the specific gravity upon the several occasions, with the general properties of the urine in connexion with each, so that we may be able to perceive at one view, and connect the varieties of character with the alterations in specific gravity. It will, of course, be understood that the patient was subjected to medical treatment, and that perhaps many of the alterations may, in part at least, be attributed to the agency of medicine and the influence exerted by regimen upon the disease.

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CLINICAL LECTURES ON MEDICINE,

Delivered at the Meath Hospital, Dublin,
Session 1837-8,

By Professor Graves.

Lecture XIII.

Treatment of Syphilis continued. — Use and abuse of Mercury; with Cases. — On the causes which impede its beneficial action. — Corrosive Sublimate to be preferred in some cases. — Observations on authors, &c.

I have stated, in a former lecture, that you may give mercury for syphilis in such an injudicious way, that all the efforts of the medicine are expended, not on the disease, which it is meant to cure, but on the constitution of the patient, which it injures. This proposition, whose truth has been long recognised, cannot be impressed too strongly or too clearly on your minds; for on accurately comprehending its scope and meaning will depend your success in the diagnosis and treatment of difficult cases. Nor is this peculiar to mercury when used in venereal disease, for the same mineral may be so mismanaged, in other diseases also, as to produce no beneficial effect, although it be the very best remedy that can be administered in them, when judiciously prescribed. Thus, give calomel in considerable and repeated doses to a dysenteric patient, and allow him at the same time to use cold and acid drinks, and a mixed diet with vegetables, and you will render the disease worse, instead of better, especially if the skin be freely exposed to alternations of temperature and cold air.

Again, when a violent pneumonia has hepatized a considerable portion of the lung, no remedy exceeds mercury in value; but it may, nevertheless, and I regret to say not unfrequently is, given under such circumstances, without the necessary precautions, and consequently rather injures than serves the sick man. The same observation applies to mercury when ordered in pleurisy or peritonitis, and is remarkably exemplified in arthritis and sciatica: in the latter disease, unless proper precautions as to temperature and rest are taken when giving calomel, you will be sure to salivate without obtaining any relief of suffering.

If opium be administered without tact, at wrong times, and in wrong doses, it often fails to procure sleep, and causes watchfulness, and so it is with all our remedies; they only produce a curative effect when properly exhibited. Certain states of the system, too, prevent the kind constitutional action of mercury. Suppuration of the liver renders it almost impossible to affect the mouth, as has been remarked by Annesley and Marshall. When the constitution is eminently scrofulous, mercury rapidly gives rise to a new group of bad symptoms, and fails to cure the venereal cachexy for which it was given.

The presence of the scorbutic diathesis—and it often may be associated with syphilis—renders the use of mercury unsafe and even injurious; even in healthy constitutions the favourable influence of mercury on the venereal symptoms may be interrupted or destroyed by strong mental emotions, excessive fatigue, bodily labour (hence the difficulty of getting mercury to act well on day-labourers and artisans, while employed), irregularity of diet, intemperance, &c. &c.

In all cases where any of these causes operate on the system, it is extremely difficult to prevent the mercury from going astray (as it is termed), that is, injuring the constitution without serving the disease.

The following example proves the truth of this observation, and shews that a very great difference of opinion exists even amongst the most determined mercurialists, respecting the propriety of giving and withholding mercury in certain cases.

Mercury is a powerful medicine, requiring the greatest caution and skill in its administration: in the hands of such men as Colles, Crampton, Cusack, and many other practitioners of Dublin, it is undoubtedly an instrument of extensive application and of great utility; but when intrusted to the management of persons of less ability and less experience, it is hard to say whether it does more harm than good. Some years ago I was called to see a young gentleman who had recently contracted a chancre. His constitution was perfectly good, and I proposed to cure the sore without mercury. To this he would not consent, and consequently I thought it right to call in the aid of the family medical attendant. He advised the use of mercury, and we prescribed five grains of blue pill, three times a day, after a few days' preparation by means of confinement, rest, and low diet. By a mistake on the part of the patient's brother, he got five grains of calomel, three times a day, instead of five grains of blue pill. A rapid improvement in the chancre took place, and on the fourth day we found the sore nearly healed, but the mouth much more affected than we had anticipated. He had then taken one drachm of calomel. That evening some young friends came to his room, and persuaded him to join them in a supper of oysters, punch, &c. In the night a most violent attack of mercurial cholera, with colic, vomiting, and purging, came on, and

reduced him to a state of great debility. The mistake, as to the calomel, was now discovered; and, in consultation on the following day, his mouth being very sore, and the chancre spreading, it was agreed to use soothing measures, local and constitutional. At the end of a week, we found the sore on the prepuce perfectly stationary; it seemed neither inclined to spread nor to heal, while his mouth was still a little sore, and his breath fœtid. My colleague now advised the resumption of mercury, which was accordingly used, both internally and externally. In about ten days, during which time he scrupulously followed our directions, his system was again brought under the active influence of mercury, but still the sore was stationary. My colleague still wished to go on with the mercury; I dissented, and another consultant was called in. This gentleman, although a mercurialist, thought mercury here inapplicable, and we therefore left it off. I now touched the sore with nitrate of copper, and, applying to its surface some felt of hat, a scab was formed, which adhered until the sore completely healed. Several years have elapsed, and the patient continues well. Here, then, was a case where two mercurialists of great experience differed as to the expediency of giving mercury. As authorities they might be deemed equal, and yet, at a particular crisis, their opinions were diametrically opposed—an occurrence alone explicable on the grounds that the principles which guide mercurialists are not so precise and certain as they profess them to be. Indeed, on many occasions, I have found the greatest discrepancy of opinion between mercurialists as to the length of time during which mercury ought to be continued after it has caused a primary sore to heal, in the same case one practitioner advising a mercurial course twice as long as that recommended by another. Occurrences such as these demonstrate that much still remains to be done in this department of medical science, and such errors should teach us all—*for we all make them*—the necessity of acknowledging, that, as yet, our opinions upon this subject are based upon no very firm grounds; and that consequently we should be tolerant of the opinions of others when they differ from us either in theory or practice. Toleration, such as I have recommended, is but too rare, and many seem incapable of arguing or lecturing calmly and philosophically on the subject of the treatment of venereal. Now in the case above related, it appears to me that the mercurialist forgot some of the rules laid down by the advocates of mercury. Let us reconsider it for a moment: a venereal sore is rapidly healing under the influence of fifteen grains of calomel daily; had a proper diet been observed, another day would have completely healed the sore, but unluckily the patient commits a gross indiscretion of diet, and, suddenly after that, the sore spreads beyond its original dimensions, and continues obstinately to refuse to heal again in spite of the patient's ill advised perseverance in the further use of mercury. Under these or similar circumstances, the rule laid down by Matthias becomes applicable, viz. that when a sore becomes stationary (having been previously healing) or gets worse under the use of mercury, it is injurious to exhibit it any longer; it must be laid aside, until those causes which deranged the constitution, and impeded the proper action of the mercury, have ceased to exist. But to prove still further that the most strenuous supporters of the mercurial system are liable to errors—to grievous errors—I shall give you the following case, on the accuracy of whose particulars you may implicitly rely. The practitioner who conducted the treatment is considered to be a most skilful mercurialist, and most experienced in the management of syphilis. When the rules that should guide us in the exhibition of mercury prove so fallacious in such hands, how much more likely are they to fail with the young and inexperienced!

Mr. ——, a strong, healthy, young man, got a small pimple and sore on penis after connexion, 25th Nov. 1836. He consulted a medical friend on the very day the pimple came out: he was assured that it was not venereal, and was desired to return on the 5th day; then also same opinion was repeated. Suspicious of its accuracy he went to another practitioner, who put him on alterative doses of mercury; Plummer's pill was continued for ten days without any soreness of mouth; it was then discontinued, as primary symptoms had healed. He remained quite well until February 1837, in the middle of which month three or four large tubercular pimples slowly formed and suppurated on the scalp, neck, and face. His general health, however, appeared quite good. On the second of March 1837, his throat felt a little sore, and he began sarsaparilla decoction; otherwise his health continued good. On the 16th March, however, a copper-coloured eruption, consisting of blotches variously sized and very numerous, came out on body and limbs. The eruption was unattended by fever.

He now consulted a third practitioner, who ordered him to rub in ʒss. of strong mercurial ointment, twice daily. His mouth became very sore on 5th day, when rubbings were discontinued for a few days, but were then resumed, and continued for seven weeks longer, during which time he confined himself to his room, and was very careful as to his diet. On the 11th May, the frictions were discontinued, as Mr. —— pronounced

him cured, and safe from all danger of relapse. Observe that his mouth had been decidedly affected all this time; profuse salivation had not been maintained, but his gums were tender, and a slight salivation existed all along, after the violent salivation which arose on the 5th day had subsided.

The patient took great care of his health during the summer and autumn. He continued quite well until the 9th of September, when he got an ulcer in his throat. He again applied to Mr. ——, who at first insisted (in self defence, no doubt) that the sore throat must have been occasioned by new infection. This the patient truly denied; on examining the ulcer Mr. —— asserted that it arose from the original syphilitic infection, and he immediately put him on the daily use of a quarter of a grain of corrosive sublimate. He touched the ulcer several times with nitrate of silver in solution; the throat got well on the 7th day, but by way of securing the constitution, the quarter-grain daily dose of corrosive sublimate was continued.

On the 1st of January, 1838, another ulcer formed in the throat! Mr. —— now increased the corrosive sublimate to half a grain daily, touched the ulcer several days in succession, twice daily, with butter of antimony; after some days only once daily.

On the 10th of January ulcer was healed. The use of the concentrated syrup of sarsaparilla was added, and the half grain of corrosive sublimate was continued until Friday, 2d March.

I need scarcely record that he was then in an extremely debilitated state, for the length of time he had been taking corrosive sublimate had been enough to impair the power of his stomach, so that for two months he had lost all appetite, and he was likewise slightly jaundiced. By the way, when mercury has been used by a patient to excess, jaundice is by no means an uncommon consequence—a fact we had often occasion to verify in the Lock Hospital 20 years ago.

The above case is instructive likewise, proving, as it does, that the same venereal poison in the same constitution may give rise to cutaneous affections of different species, for it here at first produced tubercular pustules, and at a subsequent period copper-coloured blotches.

When this patient was placed under my care I looked on him as a victim to a plan of treatment injudiciously persevered in for months after mercury was no longer necessary. Accordingly I discontinued that mineral altogether, and the patient completely recovered. It is difficult to imagine what train of reasoning could have misled the practitioner in this case. But to return to the causes which impede or prevent the beneficial action of mercury.

Every excess—every thing in fact which injures the health of body or mind—will have a tendency to counteract the beneficial effects of mercury on the disease. I think much mischief has been done by the well-known assertion of John Hunter, that he could not see what harm a good dinner and a bottle of wine would do to a man taking mercury for chancre. I would not advise you to undertake to administer mercury in venereal cases unless the patients are willing to submit to your directions;—be careful in matters of diet, avoid intemperance, and confine themselves to bed, or at least to their rooms.

Many have proposed the question—whether the poor are served or injured by Dispensary practice? Whatever may be the case with respect to the others, there can be no doubt that the venereal patients are injured. In proof of this assertion, gentlemen, I have to request your attendance at some dispensaries in winter. See the crowd of squalid, wretched, and too often depraved applicants who throng around the prescriber: observe his examination of twenty or thirty venereal patients in succession; a single glance of his eye determines the nature of each case, and a single scratch of a pen its treatment; to all—all indiscriminately—he gives mercury, no matter whether they are clothed in rags, and exposed day and night to damp and cold—and no matter whether they work hard and live by the sweat of their brow, they must all use the same pills and ointment.

It is the subjection to strict regimen, quietude, and confinement, which seems to act so favourably in the case of soldiers. They are confined to hospital, obliged to keep their beds or rooms, deprived of all dietetic stimulants, and removed from all causes of mental emotion, and hence it is that their chancres heal so rapidly. Mercury will seldom do much good unless taken under proper regulations. It will affect the constitution variously, but in general injuriously. I have already mentioned one case in which it acted injuriously, in consequence of indulgence: allow me to give another case of the kind arising from a different class of causes. A young gentleman at college, who was under my care for chancre, was taking mercury for some time during the summer season. He had taken some blue pill with benefit, and thinking if one or two pills were good, a large number would be better, took them much oftener than he was ordered.

An election took place at the college; he went to see it; became actively engaged in it, and continued so until a late hour in the afternoon. The weather happened to be extremely warm, so as to oblige him to change linen three times during the day,

but the excitement produced by the election was such, that he forgot the condition he was in, exposed himself to a vast deal of fatigue, and remained fasting the whole day. In the evening he went home, and took a large glass of wine In the course of a few minutes his head was violently affected, he became quite delirious, and continued alarmingly so for twelve or fourteen hours. Here you perceive the mercury affected the head, producing violent delirium. In other cases it will give rise to coma. In fact, it would be difficult to enumerate the various modes in which it may act injuriously when administered without caution, or when the patient is exposed to disturbing influences during a mercurial course.

You will recollect that some time ago, in speaking of double or complex diseases, I brought forward several facts in support of the hypothesis, that persons may labour under several diseases at the same time, all of which may combine to form an impaired state of the general system. In confirmation of this assertion, it appears that mercury may be employed for the treatment of syphilis, as not only to leave the disease untouched, but also to superinduce mercurial cachexy, and even scrofula, and in this state you may have eruptions of various kinds. This is one of the worst forms of complex disease that comes under the notice of the practical physician. It was this form of disease which exhibited so many melancholy spectacles in the Lock Hospital some years ago: patients were seen labouring under all the horrible symptoms which combined syphilitic, scrofulous, and mercurial cachexies present: the glands, skin, throat, bones, mucous, synovial, and fibrous tissues, were all simultaneously affected; in fact, almost every tissue in the body was more or less engaged, and the patients died terrible examples of the frightful ravages of complicated disease.

In endeavouring, therefore, to analyse the nature and character of syphilis, you must always hold one great object in view, viz. to ascertain as closely as possible the order of the symptoms. Let us, for example, take the case of the woman in the chronic ward, who is at present labouring under nodes. The first object here is to inquire whether they are syphilitic or mercurial; and with this view, it will be necessary to obtain an accurate history of her case—to ascertain the order of symptoms—how long and in what manner she used mercury—what relief she has obtained—and whether the symptoms of relapse have come on slowly and gradually, or rapidly and at once.

If a person labouring under a certain class of symptoms, primary or secondary, has used mercury until his mouth has been affected, and if, when he has reason to think himself cured, his mouth being still tender or lately so, if such a person after exposure to cold gets a violent attack of pains followed by periostitis, we may conclude that such a person has taken a sufficient quantity of mercury to cure his syphilis, and that his complaint is mercurial periostitis; for here you have a train of symptoms not referrible to the original cause. This is a very common case, and you will see numerous instances of it in labourers, and persons who are exposed to atmospheric vicissitudes while taking mercury. You will find on inquiry that after they have been cured of the venereal symptoms, they have exposed themselves to cold while still under the influence of mercury, and have shortly afterwards been attacked with a new train of symptoms. In most cases the chances are that this sudden supervention of disease is not the effect of syphilis, but of mercury. An accurate analysis of the history of the case, and a careful observation of the new phenomena, are then the only guides we have to enable us to arrive at a just conclusion. I stated at my last lecture, that the mere fact of a considerable time having elapsed since the patient took mercury is no proof that the symptoms are not mercurial. I have over and over again met with cases of periostitis in persons who had been two, four, six, and even eight years, without taking mercury. I was called the other day to see a lady whose mouth was sore, and her breath fœtid; in fact, who presented all the phenomena observed in cases of mercurial salivation; and yet it is now several years since she took mercury, by the advice of an eminent Dublin physician. Now if so much time could have passed by, and yet one of the immediate effects of mercury be present, it is not improbable that some of its remote effects should appear after a lapse of time in which we would suppose that the mercury had been completely removed from the system. Many facts, however, can be adduced to shew that some constitutions, when thoroughly affected by mercury, are apt to retain it for a very considerable time, and hence the practical physician is led to the reflection that it should be used only in cases of necessity, and with all due discretion. Thus, in treating rheumatism, if you can cure by bleeding, leeching, tartar emetic, Dover's powder, and colchicum, you should not have recourse to mercury. The same observation will apply to the treatment of pneumonia, hepatitis, and many other forms of inflammation.

In a letter which I have just received from Sir James Macgrigor, he informs me that mercury is very little used in the army. There is no regiment or hospital from which it is wholly excluded; but it is

administered with discretion, and only when the necessity of the case plainly requires its employment. I may here observe, *en passant*, that you will find some excellent observations on mercurial remedies in the lectures of Dr. Sigmond, published in the Lancet.

There is one remark I wish to make with respect to mercurials, namely, that an undue preference is shown to some preparations, to the exclusion of others. I think, for instance, that calomel is too often employed where other preparations would answer better, and that corrosive sublimate is too much neglected. I have witnessed its superiority to other preparations of mercury, in many instances; and some practitioners prefer it in the treatment of many forms of secondary syphilis. Thus, in a patient labouring under secondary symptoms, after the fever is over, and the eruption begins to decline, corrosive sublimate may be used with great advantage. One-eighth of a grain may be given twice a day, and every night the patient may rub in from a scruple to half a drachm of mercurial ointment. Under this treatment the disease is cured much more rapidly and effectually than if calomel or blue pill, or mercurial inunction alone, had been employed.

In throwing out these few observations on the treatment of venereal, my object has not been to enter into specialities, but simply to furnish a few general rules for the guidance of persons engaged, or about to be engaged, in the treatment of one of the most important diseases in the whole nosology. You will find any additional information you want in books. An immense quantity of valuable information has been collected by the army surgeons; and—thanks to the indefatigable industry of Sir James Macgrigor—the profession and the public are now able to avail themselves of those valuable contributions to medical science. You will find much valuable matter in the Medico-Chirurgical Review, the last number of which contains an able analysis of Mr. Colles's work on Venereal.

Ricord's work has been very ably reviewed in the Edinburgh Medical and Surgical Journal for July 1838; and to that periodical I must refer you for details, merely remarking, that no modern author has done more than Ricord, by contributing materials calculated to decide many important controverted questions.

Fricke remarks, that although affections of the bone and periosteum are a very frequent effect of the syphilitic poison *per se*, yet caries and destruction of the bone are seldom or never observed, except when mercury has been administered. This observation is, generally speaking, correct; but, nevertheless, it requires some limitation—for I have seen examples of caries of bone in the venereal disease, where not a grain of mercury had been taken. In the cases I allude to, the scrofulous diathesis was pre-eminently marked, and the affection of the bones, which the venereal poison excited, immediately degenerated from its usual course, and assumed all the characters of scrofulous disease. In both instances, destruction of the nasal bones, and consequent sinking in of the bridge of the nose, occurred—a deformity occasionally of simple scrofulous origin.

From an analysis of Pirogoff's "Surgical Annals," published in Oppenheim's Journal, September 1838, it appears that mercury is very seldom employed at Dorpat for the cure of venereal, and yet Dorpat is remarkable for the number and severity of syphilitic cases—a circumstance partly attributable to the absence of medical surveillance over the women of the town, and partly to the apathy, carelessness, and filth of the lower orders.

Pirogoff's general mode of treatment is non-mercurial; and he maintains that relapses are less frequent and less violent than when mercury is employed as the general means of cure. It is worthy of remark, that a peculiar consequence of phymosis, or its causes, is frequently observed at both Dorpat and Petersburg, and which consists in the transformation of the inner layer of the prepuce into cartilage. There is no remedy for this but circumcision. This change into cartilage is always produced by diseases which, producing phymosis, at the same time give rise to a long-continued irritation and inflammation of the inner surface of the foreskin, attended with an increased secretion from the latter. Under such circumstances, the surfaces of the gland and its covering prepuce pour forth secretions of an offensive nature, and which find a very difficult vent, and are, besides, rendered more acrid by an occasional admixture of urine, and by the impossibility of thoroughly cleansing the parts.

This conversion of a submucous cellular layer into cartilage occurs also in the intestinal canal. In March, 1831, two examples of it were observed by Dr. Nalty and myself at Sir P. Dun's Hospital. One of these cases was very remarkable, as the submucous cellular tissue of the colon was converted into cartilage over an extent of eight or nine inches in length, and occupying the whole circumference of the gut in that part, so as to form a complete cartilaginous cylinder, about a line in thickness. This tract of intestine seemed therefore formed of four distinct coats, viz.:—mucous, cartilaginous, muscular, and serous.

The cartilage was firm in its structure, very pliable, though strong, and its deposition seemed to have produced no change in either the calibre or shape of the intestine. This morbid production was evidently connected with a chronic inflammation of the mucous membrane, which had finally terminated in numerous ulcerations, and was accompanied by a copious deposition of black colouring matter, giving the membrane a mottled appearance. The blotches of black occupied by far the greatest portion of the surface, and was of very deep shade, precisely similar to the colouring matter so often found in the bronchial glands and on the surface of the lungs.

In the healthy European this black colouring matter is not found, except on the surface of the lungs, and in the chorion, where it forms the pigmentum nigrum. In the negro this colouring matter occurs likewise in the rete mucosum, producing the black skin which distinguishes that variety of mankind. We thus see that in the white as well as the negro, not only do the vessels of certain organs enjoy a power of secreting black colouring matter during health, but that likewise during disease other parts of the body, as in the cases I have cited, may assume a similar action, and secrete black matter. In some whites this tendency to secrete black matter becomes excessive, and gives rise to certain forms of melanosis, where this matter is secreted in almost all the tissues of the body; for I cannot agree with Faudrington in thinking, that the experiments of M. Barruel, or those of Dr. Henry, are sufficient to establish a marked difference between the colouring matter of melanosis and that of the rete mucosum of the negro, or the pigmentum nigrum of the white. The melanotic patches are, no doubt, often of a different shade, but very frequently they are extremely black.

Be this as it may, the black matter in the intestines I have described was clearly of the same nature as that on the surface of the lungs of the white, or the rete mucosum of the negro. This subject is interesting, because a knowledge of the fact, that the black colouring matter which imparts to the skin of the negro its peculiar hue, is also a natural secretion in certain organs of the white during health, and is likewise in the latter a frequent product of disease—I say a knowledge of this fact is of great weight, proving that the black colour of the skin cannot constitute a difference of species. With regard to the hair, which is often the seat of a probably similar colouring matter in the white, I may observe, that one fact, not hitherto attended to by physiologists, is in itself sufficient to establish that the hair is a horny tissue, in which a certain circulation is maintained. The fact to which I advert is, that the hair often begins to grow grey at its extreme point, or the end furthest from the root. Here the colouring matter is often absorbed, while it still remains in the remaining portion of the hair. The phenomena of plica polonica, so admirably described by my friend, Dr. Kowalowski, in the Dublin Medical Journal for November 1838, establishes the vitality of the hair.

CLINICAL REMARKS ON LITHOTRITY.

By Mr. Mayo.

Being Part of a Lecture delivered at Middlesex Hospital, March 25.

The following account of a case of stone treated by lithotrity, which has recently been brought to a favourable termination in the Middlesex Hospital, will serve to form a clinical supplement to the general observations on that subject which I have addressed to you in my course of surgical lectures.

Wm. Blake, aged 54, a farmer's labourer, of a ruddy healthy complexion, in person rather spare than full, was admitted on the 9th of January, 1839, for stone in the bladder. The symptoms had commenced two years previously. While engaged in threshing, about Christmas 1836, he first remembers to have experienced uneasiness in the bladder, and frequent urgency to void the urine. He noticed that the urine was often thick, and sometimes red. For some time he continued much the same; he was sometimes better, sometimes worse, as his occupations required more or less bodily exertion. He suffered particularly during the reaping season last summer. At length the irritation of the bladder and pain after making water became so serious, as to compel him entirely to relinquish work. He then came to the hospital. When sounded at his admission, the stone was ascertained to be of small size, and single. The urethra was free, and allowed a full-sized instrument to be introduced into the bladder. He was desired to remain in bed; the half diet of the hospital ordered for him, aperient medicine to be given when necessary, and the decoction of uva ursi, with ten grains of carbonate of soda, to be taken twice daily. In a few days

his symptoms were mitigated; he could retain the urine longer in the bladder, and had less pain after passing it. At the expiration of ten days he seemed to have reached a maximum of improvement. He could now hold his water for several hours, which was not of a much deeper colour than natural, and contained but little mucus.

Every circumstance in this case appeared to render it suitable for lithotrity: the smallness of the stone, the large calibre of the urethra, the presumable healthiness of the bladder, the good constitution of the patient. I accordingly performed that operation in the manner which I will describe.

The patient, being half dressed in drawers and stockings, sat down at the foot of his bed on two pillows, and was then assisted to fall back, another pillow being placed to support his head: his knees, at the same time, were bent, the feet resting on the floor, and the legs held each by an assistant, so as to prevent his slipping backwards off the pillows, which were intended to keep the pelvis raised. As the operation was done at one o'clock in the day, and he had passed no water since eight in the morning, and said that his bladder was full, it seemed unnecessary to inject water, which I thought it probable the bladder would not retain. So I passed at once the crushing instrument invented by Baron Heurteloup into the bladder, and, having felt the stone, opened the blades and seized it. One eminent advantage of this instrument is the facility with which the stone is caught. The stone, of course, lies at the lowest part of the bladder; and the lowest part of the bladder, through the position of the patient, is at the same time the most easily accessible by the instrument. The instrument being opened by drawing upwards its upper jaw, the lower part remains at the lowest part of the bladder, or where the stone is. If the stone is now lightly tapped, it moves aside, but immediately returns to the lowest part of the bladder—that is to say, to where the under-jaw of the instrument lies, on which it necessarily places itself: upon pressing down the upper jaw of the instrument, the stone is therefore, as you saw, caught with certainty.

The next step consisted in drawing the instrument away from the posterior surface of the bladder towards its centre, rotating the instrument at the same time to either side, to be sure that it had hold of nothing adherent.

Mr. Chalmers, my dresser, then grasped the instrument with a strong hand-vice, made by Messrs. Everil and Mason, and thus fixed the instrument in the position it had been placed in. He was desired to attend to nothing but the position of the instrument in reference to the man's body; so that if the patient moved, his hand and the instrument should move with him, or otherwise be perfectly motionless.

I then turned the lever which moves the screw of the instrument (the preparations already described being such as to enable me to use either the screw or the hammer for crushing the stone, as might appear expedient in the progress of the operation). The stone was heard and felt to break into fragments, very moderate pressure being used; the jaws of the instrument were closed by the use of the screw only. The stone, or a part, was seized a second, third, and fourth time, and each time broken; and a catheter with large eyes was then introduced into the bladder, the urine allowed to flow out, and a syringeful of warm water gently injected. A few fragments came away.

In the night a smart rigor supervened, followed by a hot stage the next day. There was no tenderness of the hypogastrium, but the urine was high-coloured and turbid. The patient was placed on low diet, an opiate with calomel given at night, and a laxative dose the next morning. In a few days he was as well as before the operation.

A week afterwards I repeated the operation, with the difference only of injecting some water into the bladder before introducing the crushing instrument. The patient passed the following night in a heavy sleep, and on waking had a return of symptomatic fever, which lasted several days, during which, however, singularly enough, the patient voided highly-coloured and turbid water entirely without pain. The result of this second operation made me apprehensive that it would prove necessary to relinquish lithotrity in this case, and led me to anticipate that it might be preferable, as soon as the patient's health should be again restored, to resort to lithotomy.

However, when three weeks more had elapsed, and the patient seemed in as good plight as before the first opera-

tion, I resolved to repeat the same once more with every possible precaution, taking measures to disturb the bladder less than before, and determined to be satisfied with doing very little at each sitting.

The operation was therefore performed with the following points of difference. The bladder was first injected with warm water, so as to be as full as the patient could bear; but the catheter used for this purpose was not introduced into the bladder, but only as far as the membranous part of the urethra. I seized and broke the stone, or fragments of the stone, three times only, and immediately discontinued the operation; and no water was injected into the bladder afterwards. This time no unfavourable symptoms followed. The urine, indeed, became of a higher colour, and contained more mucus for twenty-four hours, and the pain after voiding the urine was greater for the same time; but there was no symptomatic fever. During the ensuing two days many fragments came away.

This operation, performed on a Saturday, was repeated the three following Saturdays, the last being March 17th. After each many fragments came away; after each successively the pain was less, not merely that resulting from the operation, but the habitual uneasiness in the bladder on voiding urine. After the last, which was followed by the passage of more fragments and sand than usual, all the symptoms entirely disappeared. Upon most carefully sounding him twice since, at intervals of four days each, and drawing the water off through a large catheter, it is evident that no fragment remains in the bladder, and that the patient is really as well as he believes himself to be.

The stone, it appears, from the shape of the fragments, was a flattened oval; the nucleus was composed of lithic acid; the exterior part of the phosphates. The weight of the fragments that were preserved is two drachms thirty-nine grains. The patient says that as much again has come from him when making water at the water-closet, and in sand, which was not collected. Perhaps the stone weighed a third more than the fragments which are in my possession.

This case, taken in any view, cannot be considered as uninstructive. It is possible that the washing out of the bladder, practised on the two first occasions, may have been injurious, and that avoiding passing the catheter into the bladder in the preliminary injections afterwards, may have been serviceable. At the same time, I hardly think that these elements of the operation can have much modified the result; and the most important step, as it appears to me, taken in the management of the case, was the interval interposed between the second and third operations, during which the patient was kept in bed, and general means used to lessen the susceptibility of the bladder. It is not impossible, that if the patient had remained a month under treatment, before any operation, no symptomatic fever would have followed on the first trial. It is equally evident, that if the operation had been repeated without that interval, and in spite of the recurrence of symptomatic fever, the patient's life would have been sacrificed, although the stone might all have come away before his constitution sank under the consequences of the treatment.

The great advantages of lithotrity are, that, with a certainty of success in the majority of cases, in all the surgeon can stop short of inflicting serious pain, or risk of life.

ON THE EAR.

NO. II.

To the Editor of the Medical Gazette.

SIR,

IN my last, I stated that the jets of air used by Dr. Deleau, would tend to force the more liquid obstruction of the Eustachian tube and cavitas tympani into the mastoid cells, where it would produce considerable mischief. Dr. Deleau, in another part of his work, acknowledges that the results of jets of water into the Eustachian tube are great pain. Now jets of air, upon an obstruction of the above description, would occasion similar results; and the previous extraneous matter, as far as the mastoid cavernulæ are concerned, would excite inflammation of the mucous lining of those cells. The pus thus formed having no outlet would be productive of pain; and as the accumulated matter became more and more acrimonious, the delicate

septæ forming the divisions of these cells would be broken down and destroyed, and large tumefactions be formed upon the mastoid process, which would require to be opened to afford a passage to the pus.

This state of the parts often occurs from inflammation of the cavitas tympani, which extending to the Eustachian tube, reduces its calibre, so as not to allow the pus to pass off that way, the consequence is, that the mastoid cells become gorged with the pus, and all these evils in a greater or lesser degree follow.

I had an extreme case of this description about nine years ago, in a lady, named Jones, of Carmarthen; the tumor had been opened in the country, the discharge from the opening remained, was much discoloured, and sometimes streaked with blood; the whole of the septa of the mastoid cells were destroyed. Sir Astley Cooper saw the case with me. An injection through the above opening of nitric acid, gtt. ij. with distilled water, ℥j. which passed into the cavitas tympani, and thence into the mouth by the Eustachian tube, removed the tendency to discharge, and she has since remained free from any unpleasant symptoms. In this instance the lady suffered dreadful pains for some weeks previous to the tumor having formed, but those pains subsided, and no doubt the Eustachian tube became pervious when another outlet for the pus was formed, as I have mentioned on the mastoid process.

I have seen several cases of a similar nature, and in the early stages should puncture, with a guarded spear-pointed instrument, the membrana tympani, to allow the pus to escape into the external auditory passage, from whence it could be dislodged by the syringe and warm water.

The above are, I conceive, strong objections to Dr. Deleau's mode of practice, which appears to me unscientific, even if he succeed in performing all he purposes; but I much doubt whether in withdrawing the mandral or wire from the elastic tube, he do not displace the tube altogether. A scientific gentleman, who submitted himself to the operation under Dr. Deleau's hands, told me afterwards, that he was certain the elastic tube did not enter the gutteral orifice of his ear at all the first time it was passed through the nose; and, on the second attempt, he thought it did so; but on the Doctor removing the curved wire, the elastic tube was displaced. He gave Dr. Deleau fair opportunities, but derived no benefit. The case was afterwards cured by attention to diet, and applications to the external auditory passage, with frequent repetitions of gargles, used as I before described.

A lady, named Shewell, residing at Philadelphia, applied to me by letter for advice more than a year ago. She had been a patient of a Dr. Tôgno, who practised in America upon Dr. Deleau's principles. Her description is as follows:—He commenced by giving an emetic three times a week; then inserted a gum elastic tube, containing a crooked silver probe, through the nostrils; next drawing out the silver wire, he connected the gum-elastic tube to one attached to an air-pump, holding the nose and mouth close with the hand, and inflating, as he said, the Eustachian tube. This process was repeated *twenty-five* times. Finding the deafness much more intense, he then advised cephalic snuff, and a gargle of decoction of ipecacuanha twice a day, to produce nausea, and thus draw down, as he said, the mucus collected in the channels: he then directed an infusion of herbs to be prepared; the patient was placed in a tub covered with a blanket, and hot bricks were thrown into the infusion, till a profuse perspiration was induced. The lady says, previous to these methods being tried upon her she could hear a watch tick several inches from her head, but now she cannot hear it if applied close to the ear. I have not yet seen this lady, but expect to do so, therefore cannot at present say what may be the nature of her case.

French surgeons make a great deal more preparation than we do, previous to attempting the cure of common deafness; and in cases of puriform discharges, commence with an issue or seton in the nape of the neck; the patient taking in the morning, fasting, on alternate days, three glasses of tar water, and the next two glasses of spruce beer. Eight to twelve ipecacuanha lozenges, two at a time, between breakfast and dinner, so as to produce nausea; while from the month of March to that of May, juice of cress, chervil, and scurvy-grass, equal quantities, are taken in place of the tar water and

spruce beer. During the months of July and August, baths of and drinking sea water; but if that be not possible, baths of the artificial waters of Barèges. Injections into the auditory passage of lime-water one-third, and milk two-thirds, until at about the end of two months, when, if there be no pain, the lime-water is to be used pure. Flannel worn all over the body, next the skin; diet, roast or broiled meat; no shell fish, pastry, nor green fruit.

Dr. Deleau gives several cases which were treated in a similar manner by other medical gentlemen, who, according to him, were in error, as he cured the patients completely and speedily by jets of air into the Eustachian tube.

I am, sir,
Your obedient servant,
W. Wright,
Surgeon Aurist.

13, Salisbury Square, Fleet Street,
March 23d, 1839.

CARCINOMA MAMMÆ.

To the Editor of the Medical Gazette.

Sir,

Should the following case be considered of sufficient interest to bear a place in your valuable journal, an early insertion will much oblige

Your obedient servant,
Hugh Birt, M.R.C.S. &c.

Ashington Stonington, Sussex,
March 27, 1839.

Mrs. Thomas Hews, ætat. 45 years, recently a resident of Stonington, of diminutive stature, and of a nervo-bilious temperament, requested me to examine her left breast, in May 1838. On complying with her request, I discovered a large indurated tumor, occupying nearly the whole substance of the mamma, painful on pressure, and slight discoloration of the cuticle a little inferior to the nipple, which was slightly retracted; the discoloured surface was circumscribed, about the size of a shilling. On examining the glands of the axilla, I could not detect the slightest induration or enlargement, but, on the contrary, was led to suppose them perfectly free from any morbid influence.

At times she suffered most excruciating pain in the breast. She imputed its origin (the tumor) to a blow received on the breast three years since. She has never had any family, or even been impregnated, although married for the last 14 years. Her catamenial discharge had been always perfectly regular, although small in quantity. She states that she has experienced more bodily affliction in the last three years (previous to the operation), than in the whole of her life besides. She appeared to labour under indigestion, with all its concomitant symptoms — with hepatic obstruction, producing very inefficient chylification and defecation. She had taken iodine for a long time, and had been under two hospital surgeons (metropolitan), without experiencing any relief or even mitigation of her sufferings. After a short course of blue pill, with laxatives, bitters, and alkalies, with a view to correct the morbid gastro-intestinal action, I obtained her consent to remove the diseased mamma, which was performed in the usual manner, in the presence of two intelligent professional friends. I took very great precaution in removing (in fact, clearing out) all the small glandulæ congregatæ situated under the inferior margin of the pectoralis major muscles, leading to those of the axilla; and I am perfectly satisfied if this precaution was always attended to in these cases, we should be more successful in the total eradication of this malignant malady. The arteries were very large and numerous, and appeared to be branches principally from the arteria thoracica descendens; their coats were extremely brittle, and, as I afterwards discovered, were partly ossified. My patient lost but little blood, and recovered rapidly from the effects of the operation: her digestion is and has been very good since; and the glands of the axilla and other surrounding parts appear perfectly healthy, and free from any morbid influence. Why may I not reasonably expect I have exterminated the disease? On examining the tumor, I found it to present the well-known pathological appearances of carcinomatous or rather scirrhoid disease— glistening, pearly, and striated. Had it remained but for a short time longer, its ulcerative stage would have been established, when all our efforts would, I believe, prove useless in attempting a cure; for the communication to the glands of the axilla would have been

the direct road for the "contaminating virus" to have travelled into the system; thus exposing it to the greatest "ill flesh is heir to." The family have suffered from cancer for generations past; thus affording another proof that the ills of our forefathers descend on the heads of their children.

URINARY CALCULUS.

To A. C. Hutchison, Esq.

My dear Sir,

I was duly favoured with your letter, and with much pleasure forward to you the particulars respecting the calculus which I placed under your notice a few months since, in my museum at our Infirmary.

John Huggins was a native of Shipton Mallet, which is near the city of Wells, in Somersetshire. He had decided symptoms of a vesical complaint from his earliest recollection. In June 1831 he was 53 years of age. At this period the calculus was removed by the lateral operation, by my colleague, Mr. Richard Lowe. It is globular, the diameter being one inch and a quarter. The quarter of an inch appears to be a newly-deposited layer. It is phosphate of lime, all the rest being a pure mass of oxalate of lime; in fact, a regular, ordinary, mulberry stone. The whole weighs two ounces and two drachms. Being the immediate assisting-surgeon at the operation, I was close to the patient, when, a few minutes before it commenced, the man turned to me, and said, "Sir, I was like this, and upon this very table, twenty-seven years ago." Of course my curiosity was aroused. "Indeed," said I, "how so?"—"Why, sir," rejoined the man, "I was your patient, and you put me here, and found a stone, and the operation was to be the next day."—"Well," said I, "how was it I did not cut you?"—"Because," said Huggins, smiling, "*I cut you!*—that is, I was frightened, put on my clothes early in the morning, and when the doors were opened I ran away."—"Well, what became of you?"—"I entered as a seaman on board a man-of-war, and I served on board the Monarch line-of-battle ship eight years, and was in the north seas with Admiral Duncan. I fought a gun in the action off Camperdown, when we leathered De Winter, and took the Dutch fleet."—"Well," said I, "and did you find nothing of the stone?" "Not a bit, sir, I never had the least pain for twenty-six years; but about a twelvemonth ago it began to be troublesome, and is now so bad, that I am resolved to get rid of it, and so here I am again."

Now the man's story is borne out by dates. The battle of Camperdown was fought in October 1797, and at that time I had been elected surgeon to our hospital sixteen months, a circumstance which the man could not have known, and besides that, he had no object whatsoever in telling a falsehood. The ship was a 74, and of course the running in and out of the guns a severe duty.

The despatch says, "Admiral Onslow, in the Monarch, bore down on the enemy's rear in the most gallant manner, and had 136 men killed and wounded." So that it must be confessed there was work enough done on board of her. Perhaps the minute account which I have given of the conversation may excite some surprise at the faithfulness of my memory. The fact, however, is, that during the last forty-two years I have been in the habit of making memoranda *instanter*, and entering them in a book kept for that purpose. I can, with rare exception, therefore, refer to all that I need. I register the patients, the birth-place, age, how long ill, how many brothers and sisters, whether troubled with any other disease, and also father and mother, date of operation, operator's name, result. Of the calculus, the weight, and chemical analysis, together with the names of the officers of the house, students and strangers who were present. Some of this may appear a work of supererogation: but I assure you, that in after-life many practitioners are pleased in looking over the museum with a friend, to see their names, as pupils, registered upon the back of the card to which the divided calculus is attached, and also its history.

And now, my dear sir, I have only to add, that I do think the case of Huggins tells strongly in favour of your views, as to the influence of the sea in calculus complaints.—I remain,

Very truly and faithfully yours,

Richard Smith,
Senior Surgeon, Bristol Infirmary.

38, Park Street, 28th November, 1838.

ON THE EXHIBITION OF REMEDIES IN THE FORM OF VAPOUR*.

By D. J. Corrigan, M.D. &c. &c.

That inhalation, as a remedial process, may obtain a fair trial, it is requisite,

1st. That the apparatus should be simple in its construction, and easily kept in order.

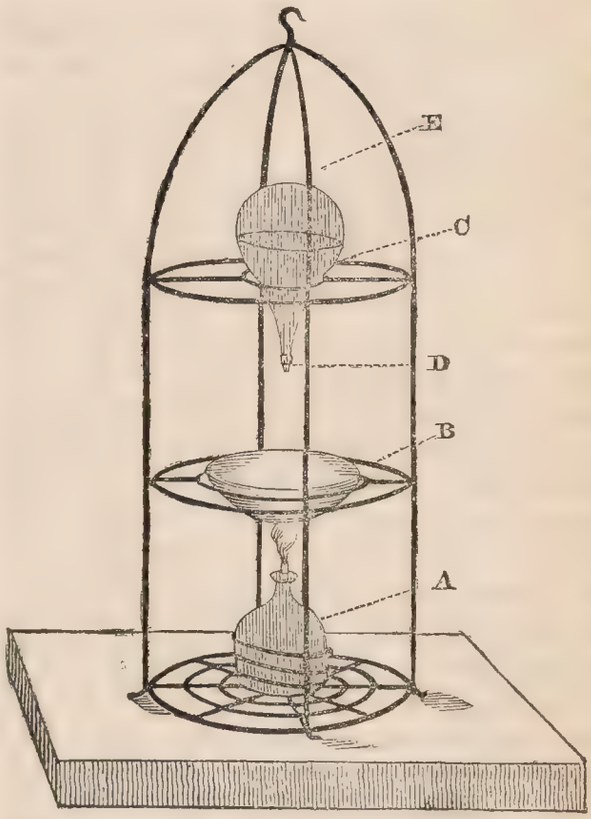
2d. That it should be capable of keeping up a supply of vapour for any length of time, and that the evolution of the vapour should be steady, and should be easily regulated.

3d. That it should also furnish a sufficient supply of aqueous vapour, to prevent any irritation of the larynx or lining membrane of the air-tubes.

4th. And most important of all, that its employment should entail neither trouble nor fatigue on the invalid.

I believe all these conditions are fulfilled in the following apparatus (*vide* drawing):—There is a light open iron-wire frame, about eighteen inches in height; at the bottom is a spirit lamp (A). At the proper height above it is an evoporating porcelain dish, about six inches diameter (B). Above this is a glass globe (C) with its neck downwards. In the neck of the globe is a cork (D) bored, and through the opening is drawn, moderately tight, a short plug of cotton wick, such as is used in a spirit-lamp; in the glass globe at (E) opposite the neck is drilled a pin-hole, to allow air to pass in, according as the fluid within drops out, through the neck. To use it, the porcelain dish is filled with hot water, the spirit-lamp is lighted, and as soon as the water in the dish has begun to boil, the glass globe containing the tincture of iodine (if this be the substance used) is placed as shown in the sketch. The rate at which the fluid in the globe shall percolate the cotton wick, and drop into the hot water underneath, is easily regulated. If it do not drop with sufficient rapidity, one or two of the threads of the cotton are to be removed. If it drop too rapidly, this is corrected by pressing in the cork more tightly, or introducing one or two additional threads of wick †.

This apparatus fulfils, I think, all the conditions required. It is simple in construction, and most easily regulated; there can be no sudden and injurious evolutions of vapour from it, but drop by drop, the evolution gradually and steadily goes on; and the air which the patient is breathing may be maintained in any required degree of impregnation, while the impregnation can be kept up for any length of time. The medicated substance employed is always vaporized with a sufficient quantity of aqueous vapour, to prevent any irritation of the larynx or lining membrane of the air-tubes; and lastly, employment of the apparatus for any duration entails neither trouble nor fatigue on the invalid.



Diffuser for the administration of Iodine, Chlorine, &c. in the form of vapour.

With this apparatus, the impregnation of the air of even a large chamber is so perfect, that the window-curtains are tinged blue by the action of the vapour of iodine. Solution of chlorine, the balsams, turpentine, preparations of camphor, stimulating or sedative remedies may, by this apparatus, be diffused in any quantity through the air which a patient is respiring.

I have mentioned the necessity which exists in most cases, of combining with the process of evaporation a sufficient quantity of aqueous vapour, to prevent any irritation of the larynx, or mucous

* From the Dub. Journ. Med. Science for March.

† To use chlorine, pour into the glass globe 8 oz. of saturated solution of chloride of lime, and into the water in the porcelain dish 2 oz. of the dilute sulphuric acid of the Pharmacopœia. As the chloride drops, the acid seizes on the lime, and the chlorine is evolved in connexion with the aqueous vapour.

membrane of the air-tubes. A few observations will shew the importance of attending to this. We are all familiar with the injurious effects of a dry easterly wind on irritable lungs, and we are equally cognizant of the beneficial effects which patients, suffering under such, derive from long sea voyages, during which they are inhaling air, which, sweeping over a great extent of sea-surface, must come to their lungs, holding in solution a large proportion of aqueous vapour. The following calculation, for which I am indebted to an American physician, whose name I regret I cannot recal to my mind, places the difference between the two kinds of air in a very striking point of view :—

If a man breathes twenty times per minute, and draws in at each respiration forty cubic inches of air, he will respire in twenty-four hours 1,152,000 cubic inches of air. The dew point of the human breath is always the same, it is 94° of Fahrenheit, and 1,152,000 cubic inches of air, the quantity respired in twenty-four hours, contains at 94°, 10,828 grains of water, or aqueous vapour. Suppose, now, air, which we are respiring, to be so dry, such as an easterly wind in this country may be, to contain so little aqueous vapour as to have its due point as low as zero, the same quantity of air will then contain only 518 grains of watery vapour. This dry air, which, when entering the lungs, contains so small a portion of aqueous vapour, leaves them on expiration with its due point at 94°, that is, it now on leaving them contains 10,828 grains of watery vapour. It has therefore abstracted the difference between 518 and 10,828, being 10,310 grains (or nearly two pounds weight) of watery vapour from the lining membrane of the lungs in twenty-four hours. To meet such an expenditure of the natural vapour of the air-tubes there is necessarily a constant determination of blood to the vessels of those tubes, and just as the dry air of the desert will, by robbing the parts of their natural moisture, inflame the eye and parch the throat, so will air, destitute of a due proportion of aqueous vapour, produce irritation and injury in the delicate and moist texture of the lungs.

Any lengthened observations on the therapeutic application of the apparatus which I have described, I must reserve for a future time. The period is too short since its construction occurred to me, to permit me to say much as yet of its effects. The use of such an apparatus is principally required in chronic affections of the lungs ; and these must be observed, both on a large scale and for a length of time, before we should venture to pronounce an opinion. The only remedial agent I have yet employed with the apparatus, is iodine. Connected with its employment there are some circumstances of which, however, I can even now speak with confidence. The inhalation of iodine has been dreaded, because in some instances troublesome irritation of the larynx has followed its use; this injurious effect has resulted from the defective means of inhalation hitherto employed. Used in the manner I have described, gradual in its evaporation, and intimately combined with a large portion of aqueous vapour, its use is positively (and I can say it with confidence) free from any injurious irritative effects. The vapour of iodine diminishes most remarkably the profuse and wasting purulent expectoration of phthisis. In the case of a man, named Carroll, with whom I have been using the apparatus in Jervis Street Hospital, the purulent expectoration, which had been very profuse, diminished soon after he commenced its use, to three or four sputa in the day ; and thus it remained up to the time of his leaving the hospital in January. In this case, also, the constitutional symptoms accompanying phthisis were completely arrested by its employment. The physical signs of phthisis were also less extensive ; but they had not disappeared when he passed from under my care. The effects of iodine thus used, on the digestive organs, have been very gratifying. In all the cases in which I employed it, the appetite and state of the intestinal canal have been improved. It has in fact acted as a most useful tonic to the digestive organs, without any of the irritation which its internal use in the ordinary form has often produced. It has also so much alleviated cough, that the patient has been enabled to obtain hours of sound and refreshing sleep. Even should its use prove on trial to be of little avail against the destructive scrofulous ulceration which constitutes phthisis, still the palliative good which is derived from it, renders it a valuable addition to our list

of remedies; and if the cure of phthisis is to be effected through the strength of the constitution, it will furnish material assistance as a valuable tonic. I shall now make a few observations on the management of the apparatus where iodine is employed. I have had it at constant work for from eight to twelve hours out of the twenty-four. At night, when the patient is settling to sleep, the apparatus is suspended from the roof of the bed; and once arranged, it continues its work quietly and silently for four or five hours, while the patient, in a composed sleep, is all this time inhaling the medicated air. In the morning, for three or four hours before the patient rises, it is again at work; and if necessary, in the mid-day, while the patient reads at a table, or, what is better, reclines on the bed, with the curtains drawn round three of the sides. The rate of evaporation, which generally gives a sufficiently strong impregnation to the air, is, when the tincture of iodine drops from the cotton wick at the rate of from six to eight drops per minute. At this rate about six drachms of the tincture will be evaporated in an hour; and as every particle of the iodine is diffused in watery vapour through the air, there are thus diffused in the minutest state of division through the air, in every hour, about thirty grains of iodine. If we suppose the patient to inhale only one-twentieth of the iodine evaporated, he will inhale in each hour, and apply to the diseased surfaces, one grain and a half of iodine in a state of the most minute division or solution. This quantity we know is quite sufficient to exert a decided action upon scrofulous ulceration; for we find on reference to Lugol's valuable work on the employment of iodine in scrofula, that in external scrofulous ulceration, the preparation of iodine which is found beneficial, is a solution which contains only about three grains of iodine in each pint of fluid. The duration of the inhalation can of course be extended at pleasure.

I may, in conclusion, observe, that since iodine and other agents exert so powerful a control over diseased secretion, and unhealthy ulcerations of other parts, when locally applied, there is at least a warrant for hoping, that when we have the means of fairly bringing the same agents to act locally, and for a sufficient length of time, upon similar diseased actions in the lungs, we may expect, at least in some instances, similarly gratifying results. The apparatus I have described furnishes us with means of doing this; and I hope at some future time to be able to bring forward a detailed account of the results. I shall esteem myself very fortunate, indeed, if I add ever so little to the means we possess of combating that opprobrium of our art—consumption; and to those, if there be any, who would discourage or reprobate new attempts at cure of this disease, I would say in the words of Beddoes, "When men reprobate new methods, as unjustifiable *experiments*, let them, in the name of common sense and humanity, be asked the following simple questions:—Whether any thing can be more unjustifiable, than perseverance in *experiments* of which constant repetition has rendered the failure certain? Whether, in such a disease, any innovation that does not increase pain and shorten life, can be an object of just apprehension? Whether, after failure, there do not remain to him who employs extraordinary measures, just the same resources as to the adversary of improvement? And, whether the innovator is likely to be so stupid as not to know how to draw the utmost advantage from the saline draught, the chalk mixture, the syrup of poppies, the acid of vitriol, and that whole tribe of palliatives, which, between ourselves, gentle reader, an observant nurse may soon learn to administer to nearly as good purpose as the most specious doctor?"

MEDICAL GAZETTE.

Saturday, April 6, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE ANATOMY BILL.

ALL great evils, it is said, will at last cure themselves, as a noxious body will irritate the surrounding parts till they take the matter in their own hands, and after a due concoction get rid of the offender. This process is, we hope,

about to be exemplified in the management of the Anatomy Bill. During the late season, in which Providence has preserved the metropolis from more than the average of mortality, the total inefficacy of the Bill, as at present worked, has been fully proved. So great has been the dearth of subjects, that there is scarcely a school in which it has been possible to carry on the anatomical lectures and demonstrations without the interruption of several days, and scarcely a pupil who has been able to pursue his studies in a profitable, much less in a conscientious way, or to exhibit in his examinations that practical experimental knowledge of his subjects which is so essential to his future success. Examiners, teachers, and learners, have alike been distressed and disgusted, and all now seek a remedy for the evil which weighs upon them, and like a heavy incubus impedes their exertions, however anxious they may be to make them.

Meetings of the anatomical teachers have lately been held to consider the subject and cause of their present difficulties; and although the method in which they may be remedied has been far from meeting with unanimity, yet the agreed opinion of all at the very first consultation was (as we have already often said), that a great portion of the evil was due to the present Inspector of Anatomy and Purveyor of bodies. Without preferring the least imputation on either his moral or intellectual character, it is certain that his mode of acting in his official capacity, and his general habits, are the very opposite of those which would be best suited for obtaining a sufficient supply of subjects for dissection. This is a fact in which, however expressed, all connected with him officially, will with more or less of appended disapprobation, cordially agree. We believe, and it is generally allowed, that he distributes the bodies with no evident partiality for one school rather than another, and that he discharges his sinecure duties as Inspector in a manner which is at least inoffensive to the schools; but as Purveyor, no one will deny that he is totally inefficient, and therefore most mischievous, crippling the exertions of others, and unable or unwilling to supply them by his own. He renders the bill, which would, if well worked, afford ample opportunities for a complete practical study of anatomy by every student, altogether inefficient—makes the facility of learning even less than before the bill passed—and risks a return to the disgusting practices which it was intended to remedy.

The sufficiency of the present legislative enactments, and the inefficiency of their present manager being thus unanimously acknowledged, where is the remedy? Of course no one doubts that it would be in the removal of the bad which mars the good. But this might not be easy; for, independently of the general difficulty in, and distaste for, an attack upon one holding a lucrative government office, the incubus has some important influence. The chief author of the efficient bill is the chief patron of the inefficient manager, and has already often shewn his determination to support him through good and bad report, and under any circumstances. The determination, therefore, which we understand the teachers have now arrived at is, to apply to the Secretary of State, to remove the duties of purveying from Dr. Somerville, and confer them upon some person appointed by themselves, or by the College of Surgeons. He would thus still retain his original office of Inspector of the Schools, with the charge of seeing that the enactments of the bill were obeyed, and the subsequently appended office of Distributor.

The Council of the College of Sur-

geons have declared their readiness to undertake the task of obtaining a sufficient supply of subjects, if the necessary arrangements can be made; and it is most earnestly to be hoped that no difference of opinion among the teachers —no objections falsely founded on a general hostility to all institutions, or a peculiar one to the College—will be allowed to frustrate the good that must result from a change like this, which is now contemplated. We wish that those who, entertaining feelings of hostility to the College, are jealous and afraid of giving it any further power than it now possesses, would fairly weigh and compare the inconveniences which they have already experienced, with those which they imagine may follow. Have they been able (except in the years when some fearful epidemic has been raging) conscientiously to teach their pupils that for which they received their money? Have they been able to supply the opportunities for a practical study of anatomy which they guaranteed, and for which they were paid as much as for their daily lectures? Have the pupils during the past season learned their anatomy by such means, or to such an extent, as will be either creditable to their teachers, or profitable to themselves? In short, have lecturers and demonstrators been able fairly, and to the satisfaction of themselves and their pupils, to fulfil the contracts which they entered into, and by which the pupils were subjected to a heavy expense? Most certainly they have not. The opportunities for studying anatomy have been shamefully deficient; the pupils have paid dearly for that which they have only partially received; and the lecturers have been continually at a loss to obtain materials for their own use. Instead of being stimulated by the abundant supply of occasion, to the thorough learning of this most useful part of their professional pursuits, the students have had the greatest difficulty in acquiring as much as is necessary for their examinations; and for this they have been obliged to resort to books and pictures, to grinding, and to other things which they ought, and if they could would wish, to spurn. At present, we allow, this has not been the fault of their teachers, for the time was scarcely arrived when their exertions for an improvement could be available; but now, when an opportunity is offered for establishing the subject on better grounds, and for obtaining full or even superabundant opportunities for study, the pupils may justly look to the lecturers to give them a fair return for their entrance-fees, and we cannot imagine on what grounds they can be conscientiously refused.

In place of these evils, which none are better acquainted with than the teachers themselves, for none (except, perhaps, the pupils) have felt them more keenly, what are anticipated by those who would object to the co-operation of the College of Surgeons? We have heard of none; except, indeed, those vague and unmeaning fears which haunt some minds, as if the deeds of public bodies were necessarily dishonest—as if gentlemen and honourable men in private life dismissed all their fairness and their honesty when they act in public. Such as these are the theoretical grounds for the imagined evils; to prevent which, some of the teachers are reluctant to permit a change for certain good from the present shameful state of the case. This, however, is certain—that if they refuse to co-operate in obtaining a better supply of subjects, they will have no right to demand fees from pupils under what will then be the false pretence of teaching them anatomy; and the pupils themselves will then, probably, not delay to apply their own practical remedy, by abandoning the schools from which

such opposition to their interests emanates.

The advantages that would result from the College of Surgeons undertaking to obtain the supply of subjects, are so evident that we can imagine no fears sufficient to authorize any teacher in a reluctance to accept their cordial co-operation. No one will doubt that the numberless sources of supply which are closed, for various reasons, to the influence of Dr. Somerville, will be at once and again opened when solicited by the interest of a number of gentlemen in whom the public place full confidence. When an important public body like the College of Surgeons makes itself (by its Council) responsible for the fulfilment of the enactments of the bill, we shall no longer hear of discontent at the laxity with which evasions of it are permitted, or of the numberless reasons for withholding bodies which are continually urged under the present administration. And in case of grievance or difficulty of any kind (of which one might occur where hundreds now do), we should have the College at once open and accessible, instead of passing through Dr. Somerville to the Home Secretary of State, who will generally care and know as little about anatomy and its study as can easily be conceived. Above all, the whole Council of the College are professionally, and some of them personally, interested in the efficient management of the bill. There is not one who would not be gratified, if not profited, in obtaining a full supply of subjects for every school, and who would not use all his interest for that end; while now the hands of those who are professionally interested are completely tied, and their exertions neutralized by the injudicious and indolent conduct of those who at present hold and misapply the powers of the act, having no other than a pecuniary interest to serve, and being permitted to serve that carelessly and indolently.

The plain and simple end which the teachers ought to keep in view is, to obtain by any fair means an ample or even a superabundant supply of subjects. When they were left to themselves, some succeeded in doing so; but others, from their own faults, failed, and so they quarrelled, and at last unwisely agreed to submit to a self-offered king—the present King Log. Like the monarchical frogs of old, they now all see their error; for if his majesty has as yet crushed but a few to death, he has crippled them all—not one has escaped from injury by the heavy and immoveable weight of their inactive lord. In fact, under Dr. Somerville's monarchy the teachers have been far worse off than under their own republic, when their motto was, "Every one for himself;" then some only were ill supplied—now all are; then anatomy might be fully studied in at least some schools—now it can be learned no where, and London will soon cease to offer any opportunities for the study, except, as in old times, by stealth and dishonesty.

If, therefore, any part of the teachers now choose, from merely political motives, or from unfair and ungrounded apprehensions that their private interests might suffer, to oppose a plan which they themselves allow would remove all the present positive and otherwise insuperable evils, upon them must the blame rest. They have received the offer of co-operation from the College of Surgeons; the whole management will be conducted openly and before their eyes: they know that there is no necessary, obstacle except their own present opposition or reluctant acquiescence; and if London ceases to afford a good anatomical school, it will be their fault, and to them must the pupils look.

WESTMINSTER HOSPITAL.

CLINICAL LECTURE, BY JNO. BURNE, M.D.

Elephantiasis of the Abdomen.—Ecthyma.—Purpura Urticans, with Lithic Acid Diathesis; Alkaline Treatment.

GENTLEMEN,—The French pathologist, Bouillaud, in reviewing the work of M. Alard, "De l'Inflammation des vaisseaux absorbans lymphatiques, dermoïdes et sous-cutanés, maladie désignée par les auteurs sous les différens noms d'éléphantiasis des Arabes, d'œdème dur, de hernie charnue, de maladie glandulaire des Barbades, &c. &c."* advanced an opinion that the elephantiasis of the Arabians depends sometimes on an affection of the venous system, rather than of the lymphatic system; and he has since adduced a case in support and illustration. In this case the lower extremities were enormously swollen, and of a lardaceous consistence, and all the *veins obstructed* by fibrinous coagula.

Both Bouillaud and Alard regard the elephantiasis as analogous, if not identical, with the phlegmasia dolens; the latter attributing it to inflammation of the lymphatics, the former to obliteration of the veins. The near relation between the elephantiasis and the plegmasia dolens, of which last I have so lately spoken, induces me to detail to you the case of elephantiasis of the abdomen which was under my care in the hospital in 1836.

CASE XXX.—*Elephantiasis of the Abdomen.*

Rebecca Carter, aged 52, of full stature and strong frame, was admitted into the hospital on the 19th of July, 1836.

She had been affected for the last two years with an enlargement of the abdomen. Viewed in the erect posture, with her clothes on, she had the appearance of a woman affected with ovarian dropsy; but undressed, the enlargement was found to consist of a pendulous growth of the integuments of the abdomen, reaching to the middle of the thighs. The skin of the front part of this tumor, around and below the navel, was of a dull colour, thickened, hard, and scabrous, and its surface studded with numerous elevations or small tumors of a similar character; laterally towards the hips and inferiorly, the thickening and hardness of the skin were much less, the surface shining and unequal, the inequalities irregularly lozenge-shaped. The dull colour, the thickening, and the rough hard unequal surface, resembled very much the elephant's skin.

The tumor, when lifted up, was perfectly moveable on the muscular parietes of the abdomen, was free from pain or tenderness, and weighed probably fifty pounds: it was the weight and dragging from above downwards of which she principally complained.

In the abdomen a tumor was palpable in the region of the spleen, and was probably an enlargement of that viscus.

The patient's general health was not materially impaired; menstruation had continued regular and abundant; and soon after she had been received into the hospital a profuse discharge, similar to the menstrua, commenced from the uterus, and continued unremittingly for five weeks, exhausting her very much. She was directed to take

> Ergotæ, gr. x.; Potassæ Sulphatis, gr. v.; Zingiberis, gr. iv. M. twice a day.

To the tumor was applied the Unguentum Iodinii Compositum. In addition to the discharge from the uterus, there took place, from time to time, a copious exudation of a straw-coloured fluid from several vesicles which had formed and burst on the lateral surface of the tumor. The exudation would continue several days, and then stop spontaneously; and the same thing, I was informed, had occurred frequently before she came under my care; vesicles to the number of three or four forming spontaneously, then bursting, and discharging to the amount of several pints. This fluid was examined by Dr. Prout, who reported as follows:—"The specific gravity, 1024, being somewhat below the average specific gravity of the blood, which it otherwise much resembled in all respects. In a day or two it deposited spontaneously a considerable quantity of a feculent albuminous matter, after which it remained transparent, and of a greenish colour."

The ergot agreed well, and restrained the too abundant discharge from the uterus; while, at the same time, it promoted the secretion of urine, and was on this account persisted in at the desire of the patient. No good appearing to result from the use of the iodine ointment, it was discontinued.

The repeated discharge of serum from the vesicles reduced on every occasion the volume and weight of the tumor, though the effect was not permanent, the tumor regaining its usual size soon after the discharge had ceased. The temporary diminution of the tumor by the serous discharge suggested the use of acupuncture; and several needles were introduced in the circumference of the tumor, where the

* Archives Générales de Médecine, tom. vi. p. 315.
† Ibid. p. 567.

skin was less changed, and where, on pressure, it pitted like an œdema, though less easily. From these acupunctures serum oozed out as freely as from the vesicles, and I now began to entertain hopes of permanently reducing, if not of altogether dissipating, the tumor; but here I was disappointed, for, immediately the drain ceased, the tumor again enlarged. Acupuncture was, however, persevered in to a great extent; then puncture by a lancet freely and extensively; yet the pendulous growth could not be reduced beyond a certain volume, while it increased when there was no longer any discharge.

This process having been carried into full effect for several weeks, and the patient despairing of obtaining any permanent benefit, declined to submit to it further, as also she did to other measures, except the ergot. She was now transferred to the incurable ward, where, after some months, her legs began to swell, and attained an enormous size; she became universally dropsical, and expired.

The death of this patient occurred in the autumn, while I was out of town, and I am unable, therefore, to give you any account of the appearances on dissection.

Seeing the analogy—even relation—between this tumor, the Barbadoes leg (elephantiasis), and phlegmasia dolens, the last of which is now known to depend on obliteration of the veins, and the elephantiasis or Barbadoes leg suspected by Bouillaud to depend on the same cause (venous obstruction), it would have been interesting to investigate the venous system, not merely as connected with the elephantiasis growth of the abdominal integuments, but with the œdema of the legs and universal dropsy. I have presented to you this case, not with a view either to support or disprove the opinion of Bouillaud, but on account of its rare occurrence, and its similarity in general features to the extremities affected with elephantiasis and phlegmasia dolens.

You may remember to have heard or read accounts of the celebrated case of elephantiasis of the scrotum, in Hoo-Loo, the Chinese, who came over to this country to have the tumor removed. I saw this case many times, and the resemblance between it and the pendulous growth of the abdominal integuments, which I have described, was exact. The disease in the Chinese was seated in the scrotal integuments, and had attained an enormous size, as large, I think, as an eighteen-inch globe, and was removed by a very distinguished operator, Mr. Key, at Guy's Hospital. I conversed with Mr. Key on this subject a few days back, but he had no reason to suppose obliteration of veins to exist in, or to have been the cause of, the tumor; on the contrary, there was great venous hæmorrhage during the operation.

Case XXXI.—*Ecthyma Vulgare.*

Elizabeth Storey, age 20, admitted into the hospital on the 30th of October, 1838, affected with an eruption for two months past. The eruption, chiefly seated on the lower extremities, was pustular, distinct, and covered with scabs nearly the size of a pea, the base being irregularly round, sore, and inflamed. She said the eruption commenced with small, itching, red, hard pimples or pustules, which in two or three days inflamed more, enlarged and contained matter at the top or apex; that the pustules then burst, and scabs formed, which after a short time fell off; that others occurred in succession, and some had appeared on her arms.

She was short in stature, had a pale conjunctive membrane, a full face with a flushed cheek, was plump, though flabby, and complained of weakness, head-ache, and loss of appetite. Her bowels were usually confined, and menstruation irregular and abundant. She had a white tongue, with a pulse rather frequent, but no fever.

This was a very well-defined case of ecthyma vulgare—the mildest form of ecthyma. The ecthyma is the third species of the order Pustulæ of Willan, and is characterized accordingly by the early formation of pus at the apex of the eruption; also by the eruption leaving a hard inflamed base, and the pustules being disdistinct and not very numerous.

Besides the eruption, the health of this girl was weak, and the digestive organs disordered, the usual accompaniments of ecthyma. I therefore adopted a plan of treatment calculated to regulate the bowels and improve the general health.

℞ Pil. Hydrarg. gr. i.; Pulv. Rhei. gr. iii. F. pil. bis quotidie.

℞ Decocti Cinchonæ, ℥j.; Sodæ Sesquicarb. gr. v. M. bis quotidie.

She complained that these medicines did not agree, on which account the bark and soda were omitted, as also, in two days more, were the rhubarb and blue pill. Other medicines having the same object in view were prescribed, but objections were also taken to these. Instead of medicine, therefore, I gave her four ounces of wine daily, and regulated the bowels by a compound rhubarb pill: under which plan she soon recovered, and left the hospital. The eruption left no marks behind.

Case XXXII.—*Purpura Urticans.—Lithic Acid Diathesis; Alkaline Treatment.*

A boy, eight years of age, of plethoric

habit, sanguine temperament, and of a decided lithic acid diathesis, being subject frequently, and on the slightest irregularity in diet, to a deposit of lithic acid in the urine, like red gravel or sand, became affected with a slight sore throat, headache, and feverishness, in the beginning of September, 1838. The throat got well in a few days, heaviness of the head only remaining. At this time he struck his knee against a table, and three days afterwards rubbed it against a wall accidentally. On the following day, the 12th of September, the knee had become very much swollen, red and hot all around, particularly on either side of the ligament of the patella: fever attended.

Four leeches were applied to the knee, an alterative powder was given at night, and an aperient in the morning.

13th.—The leeches bled freely for an hour into a poultice; two then ceased; the two other bled through the day till the evening, when one stopped; the fourth continued to bleed all night, and was stopped with difficulty. I think the boy must have lost six or seven ounces of blood, which took the colour from his cheeks. The swelling of the knee subsided rapidly afterwards; but other swellings, red, tender, painful, and seated apparently in the adipose tissue, arose on the thumb, on the back, and other parts, most suddenly.

On the 14th, some red spots were perceived on his body; and on the 15th, in the morning, an extensive eruption on his legs and thighs, of the purpura character, well marked. The spots were purplish red, elevated, circumscribed, and of various sizes, from one to six or seven lines in diameter—some circular, some oval; and on the calves of the legs were one or two stripes or wheals several inches long. He complained of stiffness of the limbs generally. There was no sponginess of gums.

Capt. Pulv. Jalapæ, gr. x. mane quotidie, et Potass. Bicarb. gr. v. bis quotidie.

In the course of two days the elevated spots subsided nearly to the level of the skin, their colour becoming purple; then, about the fifth day, brown; and later, yellow, and diffused, like an ecchymosis from a contusion. The feet were œdematous; and now, again, several red, tender, and painful swellings formed suddenly, one of them occupying the scrotum, and extending along the course of the urethra, the swelling seeming to be rather under than in the skin—like nettle-rash under the skin.

The jalap acted mildly, but the dejections being offensive, a scruple dose was administered in lieu of ten grains; this purged him briskly, with great relief to the pains and stiffness of the limbs, and improvement in the character of the evacuations. Finally, a hot bath dissipated all remaining pain, and, with change of air, established perfect convalescence.

This case was a well-marked example of Purpura Urticans, the distinguishing peculiarity of which is the elevated nature of the eruption above the ordinary level of the skin. The occurrence of such a disease in such a constitution was unexpected; and although much blood had been lost by the leeches, one could not entertain the idea of general debility, and, consequently, not think of adopting a tonic treatment. The generous diet, wine, bark, and acids, recommended by Dr. Willan, are very properly questioned by Bateman, and their inapplicability in many cases pointed out. The very acid state of the urine in the case under consideration, and the lithic acid diathesis of the little patient, which was well known to me, opposed also the use of acids, and determined me to administer the alkali.

The supposed relation of purpura to scurvy is the reason why an acid treatment, efficacious in scurvy, has been adopted in purpura, and, as it begins to appear, erroneously. In the present instance, an acid treatment was contraindicated by the lithic acid diathesis, and harm would probably have resulted from its use. A friend of mine, subject to purpura, derived no benefit from the customary treatment, but got well rapidly under the use of the liquor potassæ.

Purging, as recommended by Dr. Harty, of Dublin, is a most essential part of the treatment, and was particularly beneficial in the case before us, where the scruple dose of jalap, which purged briskly, was followed by immediate amendment. No purge can be better than jalap and calomel.

It is remarkable that not only on the present occasion, but on several others when leeches were applied to this boy, some of them bled most obstinately. It was always a difficult matter to arrest the bleeding of leech-bites in him; shewing thus a hæmorrhagic disposition associated with the purpura.

The continued bleeding from leech-bites in children is often not only troublesome but pernicious, very much more blood oozing away than is desired—to an extent sometimes as to endanger life. The same inconvenience and mischief will happen occasionally from leech-bites in the adult. On this account I make it an invariable practice to direct that the bleeding should be stopped in *one hour* after the leeches have detached themselves,—which I find a safe rule. The bleeding will, however, often persist in spite of or-

dinary endeavours to stop it, and you are called for this purpose. I have tried a great many means, as pressure, a solution of alum, or of nitrate of silver; but I find none so efficacious as a pencil of nitrate of silver pointed and inserted for a moment into the leech-wound. This has never failed in my experience.

ROYAL INSTITUTION.

March 7th, 1839.

Professor Grant on the Motor Powers of Reptiles.

This day the Fullerian Professor of Physiology delivered before a select audience an entertaining lecture on the motor functions of reptiles. As the peculiar character of the motor apparatus in each class of the animal kingdom is dependent upon the nature of the circulation, Dr. Grant first demonstrated the anatomy of the heart proper to this extensive class. In fishes there is but one auricle and one ventricle, the venous blood being collected in the auricle and thence transmitted to the ventricle. From the ventricle it goes to the bulbus arteriosus, which gives off the branchial arteries. Hence it returns arterialized by the branchial veins which unite and form the aorta, by the contractile force of which the blood is distributed through the body of the animal. In reptiles there are two auricles and one ventricle, partially divided into two chambers. The consequence is, that the venous and the arterialized blood are, to a certain extent, intermixed. From the right chamber of the ventricle, the left aortic trunk and the left pulmonary artery generally arise; from the left chamber the right aortic trunk and the right pulmonary artery. It is from the right aortic trunk that the arteries of the head and upper extremities take their origin; and these parts, as in the fœtus of mammalia and birds, receive a larger proportion of arterial blood. The right and left aortic trunks unite posteriorly to form the descending aorta.

Dr. Grant gave a minute description of the structure of the amphibia, and of the interesting metamorphosis of the branchial into the pulmonary circulation, which occurs in these animals. He illustrated this part of his subject with a profusion of diagrams, in which every order of amphibia was represented.

The branchial circulation in the Rana esculenta, during the earliest period of its larval condition, when it has external branchiæ, is similar to that of the other batrachian reptiles. The arterial trunk divides immediately into several aortic arches on each side, corresponding to the branchial arteries, which give off anastomozing branches to the branchial veins. During the second period, in which the frog has internal covered branchiæ, and in which the lungs are being more and more developed, the distribution of the vessels is more like that of fishes. In the larva of the frog, however, there is a short anastomozing branch connecting the artery and vein at the commencement of each branchial arch, which does not exist in the fish. After the metamorphosis, there remains on each side but one arterial arch, which unites with the one of the opposite side to form the aorta abdominalis. The bulbus arteriosus divides into two diverging stems, each of which consists of three trunks united, and of which the cavities are separated by thin septa. These are the remains of the branchial arteries which have united to form apparently one stem. The middle of these arteries is continuous with the aorta; the inferior gives off the pulmonary artery, whilst the superior forms the trunk which supplies the head. The pulmonary artery, in the early stage of the larva, is seen to be very small when passing into the rudimentary lungs; but as these organs enlarge during the transfiguration of the animal, the artery grows larger also.

The true reptiles never possess branchiæ, and undergo metamorphosis only during the fœtal state like the other vertebrata.

The change which the batrachian reptiles experience is not confined to the respiratory and circulatory apparatus; every tissue suffers a corresponding modification. In the mutation of the tadpole, not merely are its lungs rendered fit to extract oxygen from the atmosphere, but its skeleton is totally altered. Whilst in the water, its motions are obviously of an awkward temporary character, unlike those of the fishes, the permanent denizens of that medium. The coccygeal vertebræ of the tadpole are atrophied, and become absorbed into the system of the animal. The form of each remaining vertebra is changed; from concavo-concave it becomes concavo-convex. The intimate structure of the bones grows dense, and better fitted to resist the energetic action of more highly oxygenated muscles. In the frog, nine vertebræ alone remain; but a large pelvic arch is attached to the vertebral column, and extensive motion is permitted by means of two strong ilio-sacral articulations, thus adapting it to the saltatory progression proper to its new position, and suiting it to the search of more highly-organized food.

The mixture of the arterial and venous blood occasions a lower temperature in

reptiles, and adapts them for the circumstances in which they are destined to act, *e. g.* to lie dormant for weeks and months in the mud of rivers. The cellular structure of the outer covering, too, is a particular provision adapted to this contingency of their life, by supplying a certain degree of oxygenation to the blood.

The character of the irritability developed in the muscles is modified by the mixture of the blood, instead of the vivid and rapidly evanescing mobility of the mammalia. The motion of the reptile is slow, but pertinacious, enabling it to contend, with advantage, in its own element, with its enemies, or its occasionally powerful prey. The form of the lungs in these creatures, no less than that of the heart, indicates the imperfect arterialization of the blood. The pulmonary cells are large, and dense in texture, so that the air is not, as in mammalia, minutely divided, in order that it may be brought into contact with a larger surface of the rete mirabile.

Dr. Grant now demonstrated, in the most perspicuous manner, the difference of texture exhibited in the muscles and bones of fishes, reptiles, and mammalia, in which he made evident the gradual improvement in quality of these structures, from the fish to the higher quadruped. The warm-blooded muscle of the latter supplied a striking contrast to the pallid muscle of the former; but the texture of the bones and the arrangement of sutures formed still more remarkable diversities, and proved how admirably contrived were the properties of each for the respective media in which they were destined to live and propagate their kind.

Dr. Grant entered successively into a consideration of the osteology and myology of the Batrachian, Saurian, Ophidian, and Chilonian reptiles, and the modification of functions which the variety of structure, evident in these apparatuses, produce.

The motor apparatus of fishes, he said, is adapted to the dense medium in which they move; the fins, which form the upper and lower extremities of this class, are unattached to the spine. This is also the case in the fossil Ichthyosaurus. But in the reptile tribe we discover the sacrum and scapula, contrivances which are fitted for progression in a rarer medium. In the amphibious animals the bones contain most animal matter, are soft and flexible, are most detached from each other, and moveable, have their elements most disunited, and the whole skeleton is least perfect and most fish-like in its form. This is seen in the anguiliform bodies of the proteus, the siren, and the amphiuma, where the skeleton consists of a vertebral column almost without extremities (and what use had they for more in the water?) The intermediate creeping tadpole forms of the axoloh, the menobranchus, and the triton, where the legs and arms are further developed, have their coccygeal vertebræ much developed for their progression through the water. Those which leave the water and their water-breathing organs to assume a terrestrial life as the frogs, toads, and salamanders, have their extremities more developed to support the trunk in the thin medium of air, and have their vertebral column the most remote in its general form, and in the structure of the separate elements of each vertebra, from that of fishes. Indeed, these skeletons almost rival the anatomy of the lizard forms of sauria, especially in the round-tailed land-salamanders, which pass through their larval state in the body of the parent.

In the ophidian reptiles we have a class of animals destitute of anterior and posterior extremities, yet capable of a great variety of those active movements which we see in animals the most gifted with those parts. We see them as if running on all fours, pursuing their prey, rapidly winding through the grass, and through the low vegetation that covers extensive plains. If the prey, to escape from danger, should betake itself to trees, and imagine itself there to be in safety, we find these animals winding like an ivy-branch round the tree, and almost without apparent motion of any portion of their trunk, gliding till within reach, and then, with the velocity of a spring let loose, they dart forward and twine round their prey. If the prey should rise from the ground into the air, we see these serpents, as if they were gifted with wings, spring with velocity from the ground, dart upon the bird, and seize it. If the animal be a quadruped, and plunge for safety into the water, the serpents still pursue it in that element, swimming like fishes. The skeleton of these agile animals consists merely of a vertebral column and ribs. The vertebral column here composes almost the entire skeleton, for the ribs are only prolongations of the transverse processes—a vertebral column pliant like a cord in all directions, but solid in each particular bone, to give attachment to powerful muscles, which conduce to the strength and velocity of all the motions of the animal. This strong and flexible column consists of a greater number of vertebræ than is to be found in any other of the vertebrata, thus forming a striking contrast with many of the batrachian reptiles. The vertebræ of serpents are curtailed of all long project-

ing processes, and approach more nearly than those of other vertebrated animals to the form of the simple cube.

In the entire structure of these animals there is a beautiful adaptation to the living exigencies of their situation. The vertebral bodies terminate before by a deep, smooth, concave, articular surface, with sharp margins lined with cartilage, and lubricated with synovia. The bodies of the vertebræ terminate behind in a very regular, oblique, smooth, hemispherical eminence. These meeting together are locked into each other, and secured by a strong capsular ligament. Thus a secure and extensively moveable articulation is formed. On the sides of the vertebræ the base of the transverse process only is preserved, and that terminates in a *convex*, smooth, articular surface, upon which plays the *concave* articular surface of each rib. Thus the ribs of serpents are the transverse processes developed, but detached at their base by a freely moveable articulation.

The saurian reptiles have a more highly developed skeleton than the serpents. They have a complex sternum and scapular apparatus, a pelvic arch, together with allantal and sacral extremities to raise the serpent's trunk from the ground. The inferior grade of development of these animals, as compared with the mammalia, is indicated by the coarse fibrous texture of the bones. Even in most of the long bones of the extremities, the cancellated structure occupies the whole extent.

The Professor now gave a most minute demonstration of the varieties of structure in the substance of the bones, and in the form of the different articulations, displayed by the various genera of the saurian reptiles. He then dwelt upon the diversities of their motor functions with a characteristic enthusiam, which, in spite of a somewhat monotonous delivery, renders the prelections of this gentleman highly attractive. He also amplified upon the peculiarities of the Indian ganial, the Nilotic crocodile, and the alligator of the Amazon.

The learned professor was equally diffuse upon the structure and functions of the Chilonian reptiles, remarkable from their feeding for the most part on vegetable food—a character of rare occurrence in the class of reptiles. From their small respiration, and having but one ventricle of the heart, their movements are languid. Whether creeping among the low vegetables, or lying torpid in their burrows, these animals are constantly exposed to the trampling of heavy quadrupeds; and their strong arched skeleton, covering both the viscera and the muscles, affords them security from dangers which they have not acuteness to perceive, nor activity to shun. We regret we have not space to follow Dr. Grant in his beautiful description of the anatomy of the motor organs of these reptiles, whose humble vitality survives the casualties of a thousand years.

IDIOS.

WESTMINSTER MEDICAL SOCIETY.

Saturday, March 30, 1839.

W. D. CHOWNE, ESQ. M.D. PRESIDENT.

Fracture of the Neck of the Femur.—Discussion on the Poisonous Effects of Carbonic Acid.

DR. BROOKE exhibited the head, neck, and the upper fifth of the shaft of a femur, which he had taken on that day from the body of an old woman, between 70 and 80 years of age. The accident, which produced fracture of the cervix, occurred three years ago. Dr. Brooke was called in, and found the patient suffering excruciating pain. The limb was shortened and everted. He placed the woman on a "fracture-bed," and she experienced immediate relief. In about three months she abandoned this apparatus, and she was able to walk, with the assistance of a crutch, for the remainder of her life. The permanent curtation of the limb amounted to three-fourths of an inch. In the preparation, the neck of the femur was shown to be totally absorbed, and its place supplied by a thick and strong ligament, resembling, both in shape and bulk, the original bony cervix. Its pliability was the cause of the limb being shortened when the patient rested her weight upon it.

At nine o'clock, the President called upon Mr. Snow, as the mover of an adjournment on the previous evening, to proceed with the discussion of Dr. Golding Bird's doctrines regarding the mode in which death is produced by carbonic acid: that gentleman consequently rose, and stated, that the excellent address of Dr. Bird had induced him to modify his opinion as to the *modus operandi* of charcoal fumes. He had formerly entertained the idea that carbonic acid, like hydrogen and nitrogen, produced death simply by the exclusion of oxygen; but the experiments of Dr. Bird and Collard de Martine had convinced him of the contrary, especially that particular experiment in which 79 parts of oxygen, being mixed with 21 parts of carbonic acid, and an animal being immersed in this atmosphere, speedy death was the consequence. He (Mr. Snow) had instituted several experiments as tests of those of Dr. Bird and M. Col-

lard, and he was bound to say that the results were confirmatory of the accuracy of their conclusions. He admitted, therefore, that carbonic acid did not kill by excluding oxygen merely; but he was loth to believe that this gas acted specifically as a poison, as lead or arsenic did. It still appeared to him that its effects were of a negative or indirect character. There existed some circumstances in the experiments of Dr. Bird and M. Collard, which, in his opinion, tended in some degree to vitiate the results. M. Collard's descent, for example, into the fermenting vat, in which he was immersed in a medium of carbonic acid, and breathed through a long tube communicating with the air outside the vat, was rendered inconclusive by the fact, that, from the length of the tube, he must necessarily have inhaled an impure atmosphere; for half the air contained in the tube would consist of what he had expired, and would be consequently, to a certain extent, deoxygenized. In this way the air he breathed would be rendered less and less pure, and the apoplectic symptoms which occurred might have been produced without supposing any effect to arise on the skin from the circumambient carbonic acid gas. Another circumstance which detracted from the conclusiveness of Messrs. Bird and Collard's experiments, was the small size of the vessels which they had used for insulating the atmospheres in which they had placed their animals; for the respiration of these creatures alone in so confined an atmosphere of even pure air would so corrupt it as speedily to produce asphyxia. In his experiments he (Mr. Snow) had used a vessel containing 2000 cubic inches of capacity—a space in which the kind of animals he employed could live a long time without inconvenience, and in which, consequently, it was necessary to allow very little for the corruption of the atmosphere by the animals' breathing. The animals he employed were small birds, such as sparrows and linnets, and white mice. He employed various mixtures of gases. He first used a mixture of 75 atmospheric air, 20 carbonic acid, and 4 oxygen. In this medium the birds died in about twenty minutes. The white mouse, being removed shortly, was only a good deal distressed in its respiration, and finally recovered. Mr. Snow next mixed the gases in the proportion of 85 atmospheric air, 12 carbonic acid, and 3 oxygen. The effects upon the animals were the same in kind, but the time occupied was greater. The breathing became distressed in a few minutes; the inspirations were much deeper, and became more and more accelerated and laborious until the death of the animal. Mr. Snow made a third mixture, in which the proportions were, 90 atmospheric air, 8 carbonic acid, and 2 oxygen. Here for some short time the animals were apparently unaffected, but the fatal train of symptoms soon set in. After this, Mr. Snow made a series of mixtures, in which the oxygen was excluded, and in which the proportions of carbonic acid to the atmospheric air were successively 10 per cent., 5 per cent., 3 per cent. In all these instances, the fatal effects upon the immersed animals were much more rapid than when the oxygen was added.

Mr. Snow now detailed another series of experiments performed by himself, in which the atmospheric air was deprived of portions of the oxygen, by the admixture of nitric oxide. In atmospheres thus vitiated, the animals immersed were after a time affected with dyspnœa, and if unremoved, death ultimately ensued. If small volumes of carbonic acid were added to an atmosphere thus deprived of a portion of its oxygen, its deleteriousness would be augmented, of course. Thus it appeared, summarily, that Mr. Snow had experimented on the effects upon animal life produced by the following respiratory media:—1. Simple atmospheric air; 2. Atmospheric air and carbonic acid, with a due proportion of oxygen; 3. Atmospheric air and carbonic acid, without a due proportion of oxygen; 4. Atmospheric air deprived of a proportion of its oxygen; 5. Atmospheric air thus deprived of its oxygen, and mixed with carbonic acid. From a careful consideration of all the facts, Mr. Snow came to one or two conclusions. He inferred that the presence of oxygen acts in some degree as an antidote to the influence of the carbonic acid; that proportions of carbonic acid not producing apparent effects on the first immersed of the animals, ultimately prove fatal; that carbonic acid does not act as a direct sedative, but effects the destruction of the animal by acting as a perpetual excito-motory stimulus upon the mucous membrane of the air-cells, according to the theory of Dr. Marshall Hall, and that death occurs from exhaustion of the nervous power.

Mr. Snow further observed, that Dr. Christison had shewn that death might be produced in an atmosphere which supported the flame of a candle. The flame of a candle could not be supported in an atmosphere containing 4 per cent. of carbonic acid; *à fortiori*, such an atmosphere could not support life. Two eminent chemists, however, had recently stated that they had detected in air, collected from the crowded pit of a theatre, 4 per cent. of carbonic acid, and by which the audience had not been affected. The state-

ments of these eminent chemists were at issue with the facts afforded by experiment, for flame would be extinguished by an atmosphere corrupted with 4 per cent. of this gas. But this effect had not occurred in the theatre; and though it might be said that exhilaration might counteract the effect of the gas upon the human constitution, it could not be said to produce such an effect upon the lights. He, Mr. Snow, could not concur with Dr. Bird in opinion that the head was primarily affected by the carbonic acid. The cerebral symptoms, he thought, were the consequence of the disturbed respiration. In the birds which had perished in his experiments, the brain was not at all affected; there was neither effusion nor congestion.

Dr. A. T. Thomson said that, in order to convince himself of the sedative nature of carbonic acid gas, he had some years since performed an experiment upon his own person. He burnt his hand with sealing-wax. The hand became very painful. He then immersed it in a vessel filled with carbonic acid, and the pain instantly ceased; he took his hand out again, and the pain returned. He now immersed it in a vessel of nitrogen; the pain was not diminished; but replacing it in the carbonic acid, the pain was directly alleviated. From this experiment he (Dr. T.) inferred that the carbonic acid gas did not act simply by excluding oxygen, but that it was a sedative poison.

Mr. Streeter pronounced a severe critical diatribe against the two "eminent chemists" who had presumed to obtrude themselves into the domains of physiology. The mere chemist, he said, was not authorized to pronounce an opinion on any physiological subject; yet two gentlemen of high character in their subordinate science had given certificates, against the authority of the first medical men, declaring the innocuousness of certain "patent stoves." These certificates had, unfortunately, had great weight with the public, and in consequence of that, these pestilent inventions had been permitted most extensively to injure the public health.

Dr. Bird made a brief and lucid reply, in which he expressed his gratification that all the speakers had concurred with him in the most essential points of his arguments. The experiments of Mr. Snow corroborated his own and those of Collard de Martine. The facts elicited went to prove incontrovertibly that carbonic acid gas, inhaled in such quantities as to be enabled to pass the glottis, proved directly injurious to life, and was a deadly poison. In this point of view, the difference between him (Dr. Bird) and Mr. Snow was more nominal than real. Mr. Snow admitted that the gas was deleterious; and it mattered not to him in what degree it was poisonous, or whether it was so directly or indirectly; it was sufficient that it was granted that it destroyed life in small doses. In his opinion, however, it was as decided a narcotic as opium. He had never seen or heard of a case of poisoning by carbonic acid gas in which symptoms of congestion or inflammation of the brain did not exist. The case of the animals destroyed by Mr. Snow was not in point; for in them the brain was too small in proportion to the entire body of the animal to shew any marks of cerebral action. With regard to the effect of carbonic acid on the blood, he had made a most careful collection of all the authorities on the subject, and published them in a long article contained in the forthcoming number of the Guy's Hospital Reports.

Upon the motion of Mr. Clarke, the thanks of the Society were voted to Dr. Bird for his able communication.

IDIOS.

TREATMENT OF PHTHISIS WITH HYDROCYANIC ACID.

M. FANTONETTI, professor of clinical medicine at Pavia, has lately published some new remarks on the treatment of pulmonary phthisis by this remedy. Among others, there were three cases, in two of which there was confirmed phthisis, with an excavation, pectoriloquy, &c. where the hydrocyanic acid effected a complete cure.

These results are too wonderful for us to believe, unless confirmed; and we therefore wish our brethren cautiously to try this method, which has been already employed by several authors, and which M. Fantonetti (with an enthusiasm that perhaps savours a little too much of the south,) says that he uses, with unheard-of success, in affections of a totally different kind. The dose given by M. Fantonetti is from 3 to 6, 8, 12, or 14 drops.

It is unnecessary to add, that Gay-Lussac's medicinal Prussic acid is to be preferred, which is diluted with six times its weight of distilled water. The bottle must be wrapped up in coloured paper to prevent the decomposition of the acid by light; and it should be shaken before using, as the acid is very volatile, and not very soluble in water. To counteract the eructations, the coughing, and the irritation of the throat which it causes, the patient may keep balls of gum in his mouth.—*Gazette des Hôpitaux*, Feb. 19, 1839.

[It is clear that the doses recommended are far too large, as appears, indeed, from the effects they are supposed to produce.—*Translator.*]

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, April 2d, 1839.)

	Price.		Duty.	Duty Paid.	
				In 1839 to last week.	Same time last year.
	£ s. d.	£ s. d.	s. d.		
Aloes, Barbadoes, D.P. c	12 0 0 to	40 0 0	B P. lb 0 2	31,931	16,775
Hepatic (dry) BD..... c	5 0 0	14 0 0	F. lb 0 8		
Cape, BD. c	2 10 0	——			
Anise, Oil of, German, D.P.... lb	0 9 6	0 9 6	F. lb 1 4	——	——
E. I. ..... lb	0 6 6	——	E. I. 1 4	711	254
Asafœtida, B.D. c	2 10 0	5 0 0	c 6 0	15	35
Balsam, Canada, D.P. ..... lb	0 1 3	0 1 4	lb 0 1	1,619	1,508
Copaiba, BD..... lb	0 4 0	——	c 4 0	138	36
Peru, BD. ..... lb	0 4 0	——	lb 1 0	400	461
Benzoin (best) BD..... c	25 0 0	50 0 0	c 4 0	44	28
Camphor, unrefined, BD..... c	9 5 0	——	c 1 0	120	177
Cantharides, D.P. ..... lb	0 5 6	0 5 8	lb 1 0	6,117	5,089
Caraway, Oil of, D.P. ..... lb	0 8 0	0 8 6	lb 4 0	190	——
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0	——	lb 0 1	——	3,670
Cassia, Oil of, BD..... lb	0 7 6	——	lb 1 4	1,145	1,374
Castor Oil, East India, BD ..... lb	0 0 6	0 0 11	c 1 3	1,099	1,646
West I. (bottle) D.P. 1½ lb	——	——	——		
Castoreum, American ..... lb	0 17 0	0 18 0	lb 0 6	396	317
D.P. Hudson's Bay ..... lb	0 18 0	1 0 0			
Russian..... lb	none				
Catechu, BD. Pale c	1 10 0	1 12 0	c 1 0	8,955	2,003
Dark	3 0 0	——			
Cinchona Bark, Pale (Crown).... lb	0 2 0	0 3 6	lb 0 1	22,278	21,582
BD. Red ..... lb	0 2 0	0 4 0			
Yellow ..... lb	0 3 6	0 3 8			
Colocynth, Turkey ..... lb	0 2 6	0 4 0	lb 0 2	3,530	1,480
D.P. Mogadore ..... lb	0 1 0	——			
Calumba Root, BD. c	0 12 0	1 15 0	lb 0 2	6,112	9,611
Cubebs, BD. c	3 15 0	——	lb 0 6	12,303	9,682
Gamboge, BD. c	5 0 0	15 0 0	c 4 0	19	36
Gentian, D.P. c	1 6 0	1 8 0	c 4 0	196	223
Guaiacum, D.P..... lb	0 1 0	0 1 8	c 6 2	2	——
Gum Arabic, Turkey, fine, D.P... c	10 0 0	10 10 0			
Do. seconds, D.P. .. c	7 7 0	7 10 0	c 6 0	2,395	2,066
Barbary, brown, BD. c	2 2 0	——			
Do. white, D.P..... c	4 10 0	——			
E. I. fine yellow, BD. c	2 14 0	3 0 0	c 6 0	2,374	860
Do. dark brown, B.D. c	1 15 0	2 5 0			
—— Senegal garblings, D.P. c	3 6 0	——	c 6 0	6,737	2,911
—— Tragacanth, D.P. c	8 0 0	12 0 0	c 6 0	10	148
Iceland Moss (Lichen), D.P. .... lb	0 0 2½	0 0 3	lb 0 1	——	4,225
Ipecacuanha Root, B.D. ..... lb	0 1 9	0 2 0	lb 1 0	2,293	6,643
Jalap, BD. ..... lb	0 2 9	0 3 0	lb 0 6	9,831	10,304
Manna, flaky, BD. ..... lb	0 4 6	——	lb 0 3	2,958	2,713
Sicilian, BD. ..... lb	0 1 7	——			
Musk, China, BD. ..... oz	1 0 0	1 8 0	oz 6 0	777	556
Myrrh, East India, BD. c	5 0 0	14 0 0	c 6 0	74	25
Turkey, BD..... c	2 0 0	11 10 0			
Nux Vomica, BD..... lb	0 8 0	0 9 0	lb 2 6	——	272
Opium, Turkey, BD. ..... lb	0 15 0	——	lb 1 0	12,453	9,089
Peppermint, Oil of, F. BD..... lb	0 17 6	——	lb 4 0	354	114
Quicksilver, BD. ..... lb	0 3 10	——	lb 0 1	72,832	71,413
Rhubarb, East India, BD..... lb	0 2 6	0 4 0	lb 1 0	10,314	10,604
Dutch, trimmed, D.P. lb	0 3 6	0 5 0	F. lb 1 0	1,421	2,475
Russian, BD. ..... lb	0 8 3	——			
Saffron, French, BD. ..... lb	0 18 0	——	lb 1 0	1,125	1,225
Spanish ..... lb	0 19 0	——			
Sarsaparilla, Honduras, BD..... lb	0 1 0	0 1 9	lb 0 6	35,112	2,5008
Lisbon, BD. ..... lb	0 2 0	——			
Scammony, Smyrna, D.P..... lb	——	——	lb 2 6	3,524	2,443
Aleppo ..... lb	0 18 0	1 0 0			
Senna, East India, BD. ..... lb	0 0 3	0 0 4	E.I. lb 0 6	34,059	16,683
Alexandria, D.P..... lb	0 1 9	0 1 10	Other sorts 0 6	24,300	21,657
Smyrna, D.P. ..... lb	0 1 0	0 1 3			
Tripoli, D.P. ..... lb	0 1 0	0 1 3			

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

ANATOMY OF NERVOUS GANGLIA.

M. Faesebeck, of Brunswick, gives the following account of the results of some minute dissections which he has made of the nerves of the head, and especially of the ganglia :—

1. The *supra-maxillary* ganglion, as first described by Bochdalek, is situated between the bony plates which constitute the facial surface of the superior maxilliary bone*, and in the neighbourhood and on the upper side of the roots of the incisor teeth ; it forms a long compressed knot, in which the superior, anterior, middle, and posterior dental branches of the second branch of the trifacial nerve unite. It gives off—1. Twigs to the incisor teeth ; 2. Communicating twigs to the naso-palatine ganglion ; 3. Twigs to the mucous membrane of the nasal cavity ; 4. One branch to the nerves of the face.

2. The *naso-palatine* ganglion is formed by the two naso-palatine nerves, while they pass through the foramen incisivum, entering into union with twigs from the supra maxillary ganglion and spheno-palatine nerves. This ganglion distributes twigs to the gums. M. Faesebeck is perfectly satisfied as to the existence of the ganglion in question ; but Prof. Müller remarks that its ganglionic nature has not as yet been demonstrated.

3. The *temporal* ganglion is placed at the point where the external carotid divides into the temporal aud internal maxillary branches, and perhaps rather to the inner side of the last : it is formed by branches of the sympathetic facial, and superficial temporal auricular nerves, and distributes several twigs to the parotid gland, and to the temporal, transverse facial, and internal maxillary arteries. The superficial temporal auricular never gives branches to the external auditory meatus and to the articulation of the under jaw. Prof. Müller hints that this ganglion may be perhaps only a ganglionic plexus.

4. M. Faesebeck has in three cases found a second ophthalmic or ciliary ganglion on the inside of the optic nerve : and in one case he observed the ganglion to be very small, although the motor oculi gave off five ciliary nerves.

The long root of the ciliary ganglion is united with a branch of the motor oculi, and then the two enter together the superior rectus muscle of the eye. Further, there arise twigs from the naso-ciliary nerve, which are distributed to the levator palpebræ superior.—*Müller's Archiv.*

* M. Faesebeck probably means in the cellular structure of the bone.—Translator.

BOOKS RECEIVED FOR REVIEW.

A Short Treatise on Typhus Fever. By G. L. Roupell, M.D. Physician to St. Bartholomew's Hospital, &c.

The Naturalist ; illustrative of the Animal, Vegetable, and Mineral Kingdoms ; with beautiful Engravings on India paper. Edited by Neville Wood, Esq., late Joint-Editor of "The Analyst," Author of "British Song Birds," the "Ornithologist's Text-Book," &c. &c. Vol. IV., No. XXXIX. Published monthly. Whittaker and Co.

A Series of Anatomical Plates. Edited by James Quain, M.D. and W. J. Erasmus Wilson. Fasiculi LXVIII. and LXIX.—Nerves. Taylor and Walton, Upper Gower Street.

WEEKLY ACCOUNT of BURIALS.

From Bills of Mortality, *April* 2, 1839.

Abscess	1	Fever, Typhus	1
Age and Debility	10	Gout	1
Apoplexy	1	Hæmorrhage	1
Asthma	4	Heart, diseased	2
Cancer	1	Hooping Cough	4
Childbirth	2	Inflammation	12
Consumption	26	Bowels & Stomach	1
Convulsions	11	Brain	1
Croup	1	Lungs and Pleura	2
Dentition	4	Liver, diseased	1
Dropsy	3	Measles	3
Dropsy in the Brain	5	Mortification	2
Dropsy in the Chest	1	Thrush	1
Fever	1	Unknown Causes	39
Fever, Intermittent, or Ague	1	Casualties	1
Fever, Scarlet	2		

Decrease of Burials, as compared with the preceding week . . . 47

METEOROLOGICAL JOURNAL.

March.	Thermometer.	Barometer.
Thursday . 21	from 40 to 52	29·53 to 29·57
Friday . . 22	38 49	29·57 29·61
Saturday . 23	36 51	29·61 29·60
Sunday . . 24	35 54	29·58 29·60
Monday . . 25	37 51	29·57 29 62
Tuesday . . 26	35 49	29·69 29·82
Wednesday 27	38 56	29·62 29·44
Thursday . 28	from 37 to 45	29·35 to 29·37
Friday . . . 29	35 45	29·40 29·55
Saturday . 30	29 42	29 68 29·66
Sunday . . 31	34 46	29·63 29·50
April.		
Monday . . 1	39 47	29·51 29·57
Tuesday . 2	33 38	29 60 29 81
Wednesday 3	31 36	29·83 29·84

Winds, S.W. and N.E.

Except the 25th, 26th, and morning of the 28th ult., generally cloudy, with frequent and heavy showers of rain.

Rain fallen, ·7125 of an inch.

Charles Henry Adams.

NOTICE.

Dr. Griffin's papers have been received.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, APRIL 13, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Diuresis saccharina.

The following table is constructed with the view of presenting, in juxtaposition, the principal properties of the urine at different periods, so as that they may be readily contrasted. The properties are divided into sensible, mechanical, and chemical, arranged under the proper titles. In stating the chemical properties, I only notice those peculiar to diabetic urine, although it is evident that the table might be readily enlarged so as to suit more general purposes. In the column of dates I have arranged according as the specimen was, either that of the morning, the noon, or the evening, these times being indicated by the numbers, 1, 2, 3, the first indicating morning urine, the second the noon, and the third the evening.

From the table it will be seen that the presence even of sugar may be masked by the predominance of urea; and it also appears that these two principles alternate with each other, and seldom or never coexist in large quantity in the same urine, but as the quantity of the one increases, that of the other diminishes. The cases, too, which I have just related, shew that a saccharine condition of the urine may exist without any marked diuresis, and consequently the nature of such cases may be readily misunderstood. Indeed, until I pointed out to this gentleman the condition of the urine, he was not at all aware of it, and was indulging in a very improper remedy, under his condition of health—namely, mercury, for a supposed torpor of the liver.

It therefore becomes an object of great moment to decide what is the condition of the urine. One of the best guides is, perhaps, the specific gravity. If this steadily exceed 1·030, we may rest almost assured of a saccharine state of the urine, or that there is a tendency so far this way, that sooner or later it will manifest itself. When we add to the specific gravity the sensible properties, especially the colour—greenish or straw-coloured—there is quite sufficient to warrant us in looking upon the case as of the description already noted.

A speedy and certain mode of determining the presence of sugar in the urine is very desirable, and several modes have been proposed for this purpose, but there are none of them certain. Excess of urea is very readily determinable by nitric acid, as you have already seen; and a similarly expeditious method for determining the presence of sugar is desirable. The capability of fermenting by the addition of yeast, is not only uncertain, but is almost as tedious as evolving the sugar by any one of the processes previously detailed. Dr. Runge has proposed a process which he states to be both extremely delicate and no less certain, but the same plan occurred to me long since; and I found, upon trial, that it was neither certain nor delicate. It is founded upon the strong attraction which sulphuric acid has for water, or even the elements of water. His plan consists in evaporating the suspected urine, at a very moderate temperature, to dryness, and then dropping upon the residue, in a porcelain dish or plate, sulphuric acid, diluted with six or eight

QUALITIES OF URINE.

DATES	SENSIBLE.			MECHANICAL.		CHEMICAL.							
1829.	Colour.	Odour.	Taste.	Quantity in 24 hours.	Specific gravity.	Litmus.	Turmeric.	Urea.	Sugar.	Spontaneous reagencies.	Mucus.	Oleaginous.	Ferrocyan. of Potassium.
May 9th.	Greenish.	....	Sweet....	....	1·035	Reddened.	....	....	Copious.	....	....	....	....
10th.—1...	Pale straw.	....	Sweet....	Pints, three	1·0367	Do.	....	....	Copious.	....	....	Fatty.	....
2...	Do.	....	.....		1·040					....	....	....	....
3...	Do.	....	.....		1·035								
12th.—1...	Pale straw.	....	Sweet....	Pints, three.	1·041	.....	....	....	.....	....	....	Do.	....
2...	Do.	....	.....		1·041	.....	....	....	.....	....	....	....	....
3...	Do.	....	.....		1·035	.....	....	....	.....	....	....		
21st.	Greenish.	....	Bitter and saline	Two and a half	1·034	Reddened.	....	Urea.	Traces.	Fermented.	Mucus.	....	....
26th.—1...	Deep green.	Hayish	Sweet....	As above.	1·034	Reddened.	....	....	.....	....			
2...	Do.	....	Neutral ..	....	1·038	Do.	....	....	.....	....			
3...	Do.	....	.....	....	1·033	.....	....	....	.....	....	Mucus.	....	....
June 25th.	Straw.	....	.....	....	1·032	.....	....	....	.....	....	....	Fatty.	Serum.
26th.—1...	Straw.	Sweet	Urinous..	....	1·033	.....	....	....	.....	.. .	....	....	Serum.
2...	Green.	....	.....	....	1·032	.....	....	....	.....	....	....	....	....
3...	Straw.	....	.....	....	1·027	.....	....	....	.....	....	....	....	....
July 5th....	As above.	....	.....	....	1·0265	.....	....	....	.....	....	....	....	....

parts of water: if sugar be present, it occasions a dark colour, or even a black. This change depends upon the affinity which sulphuric acid has for water, and which, in fact, disposes the elements of this principle, existing in the composition of sugar, to unite and form water, leaving the other constituent free. Sugar consists of oxygen and hydrogen, in the relative proportions for forming water and carbon*. The oxygen and hydrogen unite and form water, and is attracted by the sulphuric acid, and the carbon deserted is left free, and causes the black colour. Here you have an opportunity of seeing the effect of sulphuric acid upon this sugar, and you see it is charred, owing to the liberation of the carbon. But it must be recollected that many other organic principles are similarly affected by sulphuric acid, or undergo charring, as it is designated, by the liberation of their charcoal. Urine contains a number of organic principles capable of being similarly affected. Runge states that his test is capable of detecting one part of sugar in solution in one or even two thousand parts of water or urine. I am at a loss to conceive how such a statement could have been made. The author certainly could never have taken the trouble to examine the validity of this test under the various modifications, otherwise he would have perceived that it was objectionable, from its liability to fallacy, in consequence of the general presence of organic matters in urine. Here you see a solution of five grains of sugar in eight drachms or four hundred and eighty grains of water, which is nearly in the ratio of 1 : 100 instead of two thousand; and you will see, on evaporating to dryness both a drop of the saccharine solution and a drop of urine which contains no sugar, and adding a drop of the diluted acid to each, and exposing to a moderate temperature, if you observe the changes, you see the urinary spot darkens, as you see in this case, much sooner than the actual sugar. Urea and mucus, and, indeed, a number of the organic or animal principles with which urine is almost invariably loaded, will render this test so far fallacious. In a word, it cannot be depended upon†. We must, therefore, depend upon the colour, smell, and other sensible characters, and the specific gravity; and if these or any other circumstances render the presence of sugar probable, then we must determine that fact by an unequivocal experiment; for the fact is one, unquestionably, of importance, because we shall thus become acquainted with the peculiar diathesis, and avoid medicines, especially mercury, which is highly pernicious in such cases. To sum up, therefore, a pale straw or greenish colour, with a specific gravity steadily above 1·030, render the occasional presence of sugar highly probable. If to these we add a smell of newly-mown hay, and a neutral taste, there can be little doubt; but under such circumstances, however questionable, it will be right to investigate and clear up the point by a special analysis *.

Morbid anatomy.—The morbid anatomy of a disease comprehends the nature of of those morbid changes which the tissues undergo during its progress. Were we to confine our notions or inquiries to the actual alterations presented at the time of

* Dr. Prout considers it a binary compound, consisting of *water* and carbon, or a *hydrate* of carbon. Upon this principle the sulphuric acid would merely abstract and directly combine with the water, setting the carbon free.

† In reference to the above, it must be admitted that a single drop of a solution of even five grains of sugar in three or four ounces, although it does not darken so soon, yet, on evaporation, it becomes much more black than a drop of urine similarly treated. But when we come to have one part of sugar in one or two thousand parts of water, I think the urine darkens much more quickly, and is ultimately darker. Alcohol, too, and spirituous mixtures, undergo the same changes as a solution of sugar, whether the alcohol be evaporated or not.

* It has lately occurred to me, that Runge's test—namely, the sulphuric acid—by some little modification might be rendered available as a trial test, if not altogether a good indication of the presence of sugar. The great difficulty, according to the present mode of applying the sulphuric acid, is, that the organic matters found in the urine are liable to char or blacken the acid. If the urine be freed from those, the test may then be made available. The method I have lately adopted is this:—A solution of acetate of lead is to be added to the urine; or acetate of lead may be agitated with it. This will coagulate and precipitate the animal matter, which is separated by filtration. A current of hydrosulphuric acid gas is passed through the filtered urine, to separate the excess of lead, and it is again filtered. A drop of the purified and filtered fluid evaporated to dryness indicates the presence of sugar on being treated with diluted sulphuric acid, by becoming black on being evaporated to dryness at a very moderate temperature. If it contain no sugar, the acid either strikes no colour or gives only a very slight tinge of a dusky or tawny hue. I find that half a grain of sugar dissolved in five and even six ounces of urine thus purified, may have the presence of sugar indicated by treating a single drop with concentrated sulphuric acid, by the carbonaceous black-looking residue; whereas with urine similarly treated, but without sugar, there is no residue, and, generally speaking, little or no colour. Colour, when it arises, seems to be derived from the urea, when this principle abounds, otherwise there is no discoloration of the acid. I need scarcely observe that if essential, even this source of discoloration—the urea—might be easily removed. However, after all, I would suggest that it be only used as a trial test. If a small capsuleful evaporated to dryness do not strike a black colour when treated with sulphuric acid, we need not make any further analysis; but if, on the contrary, it produce a carbonaceous black, then sugar may be sought for with the expectation of its presence being proved.

examination, the study of the morbid anatomy of diseases would prove of but little value to either the pathologist or the therapeutist. It is sufficiently well established that we may very often determine antecedents from their consequences or effects; so from the existing conditions presented upon anatomical inspection, we are often enabled to comprehend the various transitions from health to fatal disorganization. Did morbid anatomy merely consist in an abstract detail of mortal changes, we should derive so little advantage from it, that the pursuit would be scarcely worth the trouble of the investigation. But morbid anatomy, though of the utmost advantage in most cases, yet it occasionally happens that it throws no light whatever upon the subject of research. This is unfortunately the case in the disease now under our consideration; and such must always prove to be the case in diseases which, in different instances, present almost every variety of morbid condition in almost every organ or variety of tissue. Perhaps I cannot offer a better illustration than the signal failure of all those who have attempted to localize the cause of fever. Some, for instance, attribute it to inflammation of the intestinal mucous lining; others to a similar condition of certain glands in the same situation; while others, again, transfer the morbid action to the head, and more particularly the membranes enveloping the encephalon. However, it unfortunately happens for all these theories, that these morbid conditions are frequently observed without any of the phenomena of fever; and again, fever has been fully established, and even proved fatal, nor could a vestige of the essential morbid condition be discovered. In various instances various appearances present, but none constantly and invariably, and therefore they cannot be looked upon as the essential entities in the development of fever.

In the morbid anatomy of diabetes, we derive as little information from the diseased appearances unfolded by anatomical investigation. Indeed, a variety of fatal changes present themselves, but there is no possibility of connecting them with the disease. We find, too, that the most serious changes often present in organs far distant, and, indeed, distinct in their functions, from the urinary organs. Thus very frequently as diabetes advances, and becomes formidable, phthisical symptoms supervene, and, on dissection, the morbid condition of the lungs attendant upon it is formed, and this even in its utmost virulence. The lungs have been found so frequently the seat of disease, and this of a phthisical character, that, in truth, phthisis has been looked upon as the primary affection, of which diabetes has been considered as only one of the consequences.

The lungs have been found in all the morbid conditions of phthisis, from simple tubercle to extensive excavations; but it is only towards the termination of diabetes, or after the disease has been for some time established, that phthisical symptoms begin to shew themselves. Very often the mucous lining of the bronchial tubes are the seat of a chronic inflammation, with a profuse discharge of pus, the effects of which are extremely exhausting. In one instance of this sort I found the mucous lining soft and pulpy, and in some parts abraded, so that the expectoration presented a sanious appearance; and from its appearance one would have been inclined to pronounce, a large tubercular cavity. But on dissection no disease of the parenchyma was to be seen; but the trachea was ulcerated, and the bronchial membrane presented the appearance above noted. In some cases the lungs have been found congested, and in some even hepatised. Perhaps of all the viscera the lungs more frequently than any other present morbid appearances, and these present great varieties, but the above seem to be the principal ones.

The chylopoietic viscera, with which we may associate the liver, seem often to be the seat of disease; and these diseases assume almost every variety of character, to particularise all which would be wholly inconsistent with our present purpose. The mesenteric glands are frequently enlarged and tuberculated; this was the case in a most remarkable degree in a case which I had an opportunity of examining some time since. These glands were most enormously enlarged, hard, and tuberculated. I did not see the case while alive, but had frequent opportunities of examining the urine, which contained a large proportion of sugar, and the specific gravity usually averaged between 1040 and 1048.

Of course you will naturally expect to hear something satisfactory in relation to the morbid conditions of the kidneys, and from which something decisive might be inferred relative to the disease; but there is nothing satisfactory which I have to communicate upon this point. In some cases the kidneys have been found very seriously affected; in others, they present scarcely any deviation from the healthy condition. In the case to which I have above referred, the kidneys did not present any morbid appearance whatever. However, in general the kidneys present some—however slight the manifestations—appearances of disease. In some cases the kidneys are much enlarged: in one instance I saw them

five or six times their natural size. In some they are indurated, and even tuberculated; in others, even though they should be hypertrophied, they are softened, flabby, and have nothing of their natural firmness. It happens occasionally that the pelvis is much enlarged, presenting the appearance of a large sac or pouch; and this probably occurs only in cases in which large quantities of urine are voided, and to accommodate the retention of which the pelvis gradually becomes enlarged. The kidneys are sometimes found in a highly congested state, but I do not know that they have ever presented the real characters of genuine inflammation, although the consequences, induration, pus, &c. are not uncommon. Lastly, the spinal cord has also been found variously affected; and, indeed, every tissue of the body has, upon occasion, presented morbid appearances more or less varied. Such is a hasty review of the principal morbid appearances which have been observed on the dissection of those who have died of diabetes.

Pathology.—Under this head we shall have many matters to investigate, of which, I fear, we shall be able to offer no very clear or satisfactory elucidation. We have already shewn that diabetes—that is, a saccharine condition of the urine—may exist with or without diuresis; and this appears to be a very important point to establish. Dr. Prout, in his work on the Urinary Organs, hints at not only the possibility, but even the probability of such cases. In the Gulstonian Lectures, too, he states—"A saccharine condition of the urine, in a minor degree, is by no means an unusual occurrence in various forms of dyspepsia, more especially in old gouty subjects; and in this state it can hardly be considered as dangerous, at least not more so than many other urinary derangements." No doubt they who have been in the habit of minutely attending to the qualities of the urine, will occasionally meet with instances of the description above alluded to; but the two cases I have just noticed seem to be of a very different character. In the first the urine is only occasionally saccharine; but in those which I have brought before you, the morbid condition was permanent, the urine constantly of high specific gravity, and, when the presence of sugar, or some absolutely saccharine principle, was not sensibly manifest, its alternating principle urea was almost invariably found in excess. Here, too, there was no actual diuresis, the urine not being more copious than in the ordinary state of good health; and although thirst was an almost invariable source of distress and inconvenience, yet the appetite was not preternaturally voracious. Fever and a dry state of skin, it is true, prevailed; but then these phenomena prevail in almost all cases of gastric irritation.

In the great bulk, however, of instances which authors have correctly designated diabetes, there has been distinct and decided diuresis, the quantity of urine greatly exceeding the standard of health, while, at the same time, emaciation and voracious appetite were predominant, if not even characteristic, features; but they were wanting in the cases before us. Now to what can these differences in the phenomena be attributed? In both the saccharine condition of the urine, and even to the same extent, are characters which would infer a similarity of symptoms; yet we find in the one variety the patient but barely perceives that his health is out of order, nor has he the slightest suspicion of the nature of the derangement; in the other, he is not only fully sensible of the formidable character of his disease, but experiences the greatest misery and distress, and looks upon life as a source of perpetuation, which he wishes speedily terminated. All these differences are attributable to, and perfectly explicable by, the excessive diuresis which prevails in the severer forms. In order to comprehend how an excessive diuresis can prove so severe a drain upon the constitution, it will be necessary to refer to the following table, constructed evidently with no little labour, by Dr. Henry. In the construction of this table, he obtained the requisite data by evaporating the urine in a steam bath till it ceased to lose weight, and the residual extract became solid on cooling. The table shews the solid extract furnished by a wine-pint of urine, of the intermediate specific gravities from 1020 to 1050, evaporated as above*.

From this table we can readily calculate the enormous draughts made upon the system by this disease; yet it is surprising how little, comparatively speaking, some are reduced under such draughts. I remember the case of a man, at Boreham, named Chapman, and who suffered, and, indeed, ultimately died of this complaint, who passed in the twenty-four hours twenty-four pints of saccharine urine, of a specific gravity of 1043. On looking to Dr. Henry's table, you will find that a pint of urine, of specific gravity 1043, contains 824 grains, or one ounce, five drachms, two scruples, and three grains, of solid matter; therefore the daily draught upon this patient was—

* See Annals of Philosophy, vol. i. p. 27.

Specific Gravity of Urine, water at 60 deg. Fah. being = 1000.	Quantity of Extract in a Wine-pint of the Sp. Gr. specified, in	Quantity of Extract in a Wine-pint, estimated in
	Grains.	Oz. Drs. Scr. Grs.
1020	382·4	0 6 1 2
1021	401·6	0 6 2 1
1022	420·8	0 7 0 0
1023	440·0	0 7 1 0
1024	459·2	0 7 1 19
1025	478·4	0 7 2 18
1026	497·6	1 0 0 17
1027	516·8	1 0 1 16
1028	536·0	1 0 2 16
1029	555·2	1 1 0 15
1030	574·4	1 1 1 14
1031	593·6	1 1 2 13
1032	612·8	1 2 0 12
1033	632·0	1 2 1 12
1034	651·2	1 2 2 11
1035	670·4	1 3 0 10
1036	689·6	1 3 1 9
1037	708·8	1 3 2 8
1038	728·0	1 4 0 8
1039	747·2	1 4 1 7
1040	766·4	1 4 2 6
1041	785·6	1 5 0 5
1042	804·8	1 5 1 4
1043	824·0	1 5 2 3
1044	843·2	1 6 0 3
1045	862·4	1 6 1 2
1046	881·6	1 6 2 1
1047	900·8	1 7 0 0
1048	920·0	1 7 1 0
1049	939·2	1 7 1 19
1050	958·4	1 7 2 18

$$\overline{1\ 5\ 2\ 3} \times 24 = 41\ 2\ 2\ 12$$

or three pounds, five ounces, two drachms, two scruples, and twelve grains, of solid extract; yet this man did not emaciate in a remarkable degree till within a short period of his death. In contrast to the above I may mention the case of a woman, named Pratt, who, when I first saw her, was passing daily only ten pints of saccharine urine, of the average specific gravity 1037, which, by the table, gives 708·8 grains, or one ounce, three drachms, two scruples, and eight grains, of solid extract in each pint; consequently—

$$\overline{1\ 3\ 2\ 8} \times 10 = 14\ 6$$

or very nearly one pound; yet this woman was emaciated to a most extraordinary extent; she also very soon became dropsical, and had symptoms of phthisis in the severest form. Now here are peculiarities that seem at first sight almost inexplicable; but when we consider that Pratt was affected with phthisis, we may presume that she suffered from other morbid constitutional tendencies in addition to the diabetic; and disease once developed, soon destroyed the patient overwhelmed by so many evils thus called into action. But Chapman did not seem to suffer from any other constitutional tendency, and consequently had diabetes alone to contend with; and had it not been for the most extraordinary and incessant draughts daily made upon the system, this patient might have survived, perhaps, for he was not above 40 years of age when he died. Therefore, when we consider the quantity of solid matter daily evacuated from the system, we can easily reconcile the emaciation and voracious appetite in diabetes.

CLINICAL LECTURES,

Delivered in Jervis-Street Hospital, Dublin,

By Dr. Corrigan.

Session of 1838-9.

Lecture II.

Phthisis. — Division of the Disease into two Stages.—Treatment of the Case by the Iodine Diffuser.— Consideration of the First Stage of Phthisis.—Its Treatment by Bloodletting, Mercury, &c.—Principles of this Treatment.

Gentlemen,—The following case brings with it considerations of great importance, both as to the nature and treatment of such affections:—

"John Carroll, a labourer, æt. 28, was admitted on the 15th October, with hæmoptysis. He had been of very intemperate habits, and was continually exposed to repeated wettings. About seven weeks before admission his illness commenced with severe pains in his back and shoulders, accompanied with cough and trifling expectoration, and he wasted in flesh. About a fortnight before his admission, the hæmoptysis set in, and it has continued at intervals up to the present time. His pulse is 72; tongue foul. In the subclavicular region of left side, there is dulness on percussion, with muco-crepitating rattle; natural respiration very feeble, and with very loud bronchophony.

On the 23d October the report was, that the hæmoptysis had ceased, and that the sound on percussion under left clavicle was becoming clearer, and the muco-crepitating rattle more limited, but still audible to the extent of an inch and a half under the clavicle. Pulse 96, small.

On the 5th November an issue was inserted under the left clavicle.

On the 10th the report is, that the cough was less severe; the pulse was only 76; there were no sweats; the sound on percussion under left clavicle was clear, but the muco-crepitating rattle was more audible under the left clavicle, and the expectoration was purulent and abundant.

On the 20th the cough had returned, with pain about the left scapula, and the pulse rose to 88, and became fuller. The crepitating rattle could be heard posteriorly, as low as the inferior angle of the scapula, and anteriorly as low as the fourth rib. He was blistered; the pain and feverishness ceased, and he was then ordered the use of the iodine diffuser three hours per day.

Of the nature of the affection under which Carroll is labouring there cannot be a doubt. It is tubercular disease of the upper portion of the left lung. The only two diseases with which it might be confounded, are pneumonia and catarrh. The case was at no time sufficiently acute for pneumonia, while the history of the case, the cough and wasting before admission, the hæmoptysis, the dulness on percussion, and the consequent muco-crepitating rattle under the left clavicle, all distinctly point out tubercular deposition in this region as the cause of the symptoms. It might be suggested that catarrh could cause the mucous rattle under the left clavicle, but the mucous rattle of catarrh is always more diffused; and when, as in this case, the rattle is confined to the superior portion of the chest, while, as we examine lower down, the respiration becomes pure, the probabilities are very great indeed against the diseased action being any thing else than phthisis. Were the mucous rattle general over the chest, the diagnosis might be more difficult; but where, as in this case, the respiration is every where pure except in the upper portion of the left lung, and that the muco-crepitating rattle is there constant, there is very positive proof of the mucous rattle having its cause in a diseased state of the tissue of the lung in that situation; and the history of the case, the cough, the wasting, followed by hæmoptysis, refer us clearly to tubercles in the upper portion of the left lung as the disease. There is another sign, if any were wanting, of the nature of the disease, in the attacks of intercurrent pneumonia which have now and then set in. At uncertain intervals, Carroll has complained of pain or uneasiness in the upper part of the left side; and on those occasions the pulse has risen, the skin has become slightly hot, the expectoration has grown viscid, and, on physical examination, the crepitating rattle has been found to extend as low as the angle of the scapula. The proper means having been employed, these symptoms have disappeared, and the crepitating rattle has returned within its old limits. These intercurrent attacks of pneumonia are among the worst and most insidious aggravations of phthisis.

The treatment of a case such as Carroll's may be advantageously considered in relation to two stages—the stage in which he has been since his admission into hospital, and the stage which he himself so accurately describes, which was of five or six weeks' duration, characterized by wasting and cough, with little or no expectoration. I shall first consider the treatment of his present stage, in which there are softened tubercles in the top of his left lung, with intercurrent attacks of pneumonia. I need not tell you how generally hopeless cases of phthisis are, but that recoveries

have taken place where there has been tubercular deposition in a lung, we cannot entertain a doubt. The present is a case in which we may be justified in hoping, at least, for such a result. Cases of phthisis may be divided into two classes; the first, that class of cases in which there is a general scrofulous deposition, and in which the deposition of tubercles takes place through a large extent of lung, and principally from the influence of the general scrofulous diathesis. This form may be called constitutional phthisis. I believe it is always fatal. The second form is where some exciting cause has produced local scrofulous action, and where the tubercular deposition may be confined to the particular site, just as we occasionally see scrofulous action occasionally confined to a joint or a gland, without more general deposition. This second form may be called local phthisis. Of this latter form, I hope, is Carroll's case. He was in perfectly good and rude health until seven weeks before admission, when the first stage of the disease set in; and the diseased action has been confined, in a great degree, to its original limits. If neglected, such a case would inevitably degenerate into progressive and general tubercular destruction of both lungs. There is, however, a hope, although a faint one, that the diseased action may be arrested.

This will only be attained by the healing of the scrofulous ulceration in the top of the left lung; and it is with the hope of effecting this, that I have put into operation with him the iodine diffuser.

It has often occurred to me, as I have witnessed the surprisingly rapid effects of the local application of iodine externally, both in producing absorption of indolent scrofulous swellings, and in healing up scrofulous ulcerations, that if a plan could be devised of applying it fairly to similar diseased structures and actions in the tissue of the lungs, we might add materially to our power of combating so dreadful a scourge as consumption. The ordinary inhalers I have always seen patients become tired of. The labour, and trouble, and manœuvring, necessary in using the ordinary glass inhaler will not be borne by a weakened and irritable consumptive patient; while the uncertainty of the dose of the vapour, and the short time it can be used, render it a worthless instrument. Other modes have been devised of administering remedies through the medium of inhalation; but, after repeated trials, I have found the instrument which I now shew you so superior to all the others, and so easy of application, that I have no hesitation in recommending it.

[For a description of the apparatus, extracted from the No. of the Dublin Medical Journal of March, we refer the reader to the preceding number of the Gazette, p. 49.]

This diffuser possesses many advantages to recommend it. It requires no exertion whatever from the patient, and the extent to which the impregnation of the air which he is breathing with the vapour of iodine, can be regulated to any degree. So strongly can the air be impregnated with the iodine, that I have seen the window curtains of a large bedroom, at a distance from the bed, stained deep blue by the action of the iodine on the starch in the curtains. The air thus impregnated with iodine is not inhaled for a few minutes only, as in the ordinary inhalers, but is breathed for hours without any attention or labour on the part of the patient. The iodine is also diffused through the air mixed with a quantity of aqueous vapour, which deprives it of its irritating properties, and enables the patient to respire it in larger proportion. In using it, I generally direct that the diffuser shall be hung from the roof of the bed. Set to work when the patient retires to rest, it may be allowed to continue in action for three or four hours. The patient falls asleep, and still continues to inhale the vapour. It may be again set in action early in the morning, and continued for three or four hours; while its use does not interfere with reading, writing, or any other occupation in which the invalid may be employed. When the diffuser is used by being suspended from the roof of the bed, when the vapour is partly confined by the bed curtains, the tincture dropping at the rate of about five drops per minute will generally impregnate the air as strongly as the patient can bear it; but if placed on a table in the open room, in which way the patient also sometimes uses it, the tincture may be allowed to drop at a more rapid rate.

The local application of iodine in its most finely divided state—that of vapour—to the diseased surfaces in the lungs may thus be continued for days or weeks, without the slightest distress or inconvenience to the patient, and the quantity thus applied must be considerable. If we calculate that, at the rate of five drops per minute, there are evaporated in an hour five drachms of the tincture, there is then for every hour more than a scruple of pure iodine diffused through the air which the patient is breathing, and a considerable proportion of which must thus come locally into action on the diseased surfaces of the lungs. When we remember the very small proportions of iodine necessary to produce healing of scrofulous ulcers externally, often not more than five grains of iodine to an ounce of ointment, we can

easily imagine that, applied through the diffuser, a sufficient portion may enter the bronchial tubes to exercise a beneficial action on the lungs. The iodine administered in this way is sometimes absorbed. Mr. O'Keeffe has tested Carroll's urine, and has on one occasion detected iodine in it. The effects of the use of the diffuser so far in Carroll's case have been very beneficial. His cough has been greatly lessened; his expectoration diminished; and he observed himself, without being asked about it, that his appetite has been increased since he began its use. We shall give the plan a fair trial, and if iodine or any other remedy acting locally on tubercular action going forward in the lungs will arrest that action, this diffuser furnishes us with the means of giving the remedy a fair opportunity.

In the progress of a case of phthisis, such as Carroll's, the attacks of intercurrent pneumonia require to be closely watched. These consist of sudden attacks of congestion setting in on the diseased lung, and they always increase the development of tubercles, or soften down into abscesses those already deposited. Their attack is easily recognized by the heat of skin, the rising of the pulse, and the changed expectoration, which accompany or precede them. With these symptoms the stethoscope discovers an increased extent of crepitating rattle. The change in the character of the expectoration is of itself sufficient to point out the danger. The ordinary expectoration from the tubercular abscess is creamy, purulent, friable, opaque, and without bubbles of air through it; the expectoration on the onset of the attack of congestion and pneumonia presents, in addition, sputa, which are tinged with blood; or if not, are transparent, like white of egg, are viscid, and hold entangled in them bubbles of air of all size. When these symptoms shew themselves, tonics and full diet should be discontinued, a milk or low diet substituted, and leeches applied, and repeated until expectoration has resumed its former appearance.

I have now to recal your attention to what I have called the first stage of Carroll's illness—namely, that period when he complained alone of cough, with little or no expectoration, and during which he sought for no advice or relief. This period, with him, lasted five weeks; and I direct your attention particularly to it, because such a neglected stage is, in very many instances, the stage which is the foundation of phthisis; and the subsequent onset of phthisis may, I believe, in many, very many instances, be prevented by the timely use, in this stage, of blood-letting, general or local, with the employment of mercury—a remedy which may, perhaps, at first view excite a little surprise, when named as a preservative against phthisis. I shall now give you the grounds on which I base this opinion. The history of the first five weeks of Carroll's illness, is the history of a great number of treacherous cases of phthisis. A patient has been attacked with slight bronchitis, or influenza. Four or sometimes ten weeks are passing over; the cough is continuing, and, as in Carroll's case, with little or perhaps no expectoration; the patient is wasting, there is debility, the appetite has failed, and, to restore it and the strength, the patient is probably using tonics or taking wine, but without any good result. The examination of the chest with the stethoscope gives no satisfactory result. It sounds well on percussion, the respiration is natural, or if there be any morbid sound, it is perhaps only a very slight sibilous sound heard, and only occasionally, under one of the clavicles. On examining such a patient more closely, there is heat of skin, and a pulse always somewhat above the natural standard, with evening exacerbations, through trifling in degree, of fever. Thus the only positive signs are the low fever, the consequent wasting, the quickened pulse, and the sonorous or bronchial cough. But these are enough; while the stethoscopic examination tells us there is neither ordinary catarrh, nor disease of the tissue of the lungs, to give rise to the above symptoms. Pathology and experience of the termination of such cases tell us what has been going on during this treacherous period.

The bronchial tubes of the upper lobes of the lungs are more liable to suffer from irritation and low congestion than the bronchial tubes in any other part of the chest. It is not necessary for us to discuss whether tubercles are or are not a consequence of inflammation; it is sufficient for us to know that the long continuance of a low degree of congestion is most favourable to the deposition of tubercles. Andral says—"On doit admettre qu'ils (ces tubercles) sont produits d'une manière le plus souvent evidente, et quelquefois latente, par un travail qui diffère de l'inflammation proprement dite, non par sa nature, mais par son degré*," &c. The upper lobes of the lungs, in their bronchial tubes, are peculiarly liable to this very low irritation, which is so favourable to the production of tubercles.

* Clinique Médicale.

In such a case as I have just described, omit the tonics and the wine; instead of full diet or nourishing food, given under the fallacious idea of restoring health, put your patient on milk diet, apply leeches to the upper part of the chest, and give a mild mercurial preparation, such as five grains of Hyd. c. Magnesia, every night until the slightest possible effect is produced upon the gums, and the most rapid amendment will follow. There is no need, in such cases, of giving mercury beyond the degree I have mentioned; and remember that in speaking of it as a remedy against phthisis, its use is in removing that degree of low local inflammation which, allowed to remain unchecked, or improperly treated, would terminate in tubercular deposition, and consequent phthisis.

I shall conclude with a case exemplifying the symptoms I have described. In the last week of October a patient consulted me, who for more than two months had been harassed with a ringing cough, without any expectoration. Her breathing was short, and she was occasionally hoarse. She had wasted a good deal, and her appetite was very bad: her pulse was 92. The chest sounded well on percussion, and the respiration was natural. She had been for some time in the country, without deriving any benefit from it. The long continuance of the cough, the wasting, the debility, and the loss of appetite, naturally excited a dread that phthisis was setting in. As she complained of a feeling of oppression over the chest, I bled her to a small amount from the arm, and applied leeches to the trachea. This was followed by the exhibition of Hyd. c. Magnesia, gr. iij. c. Pulv. Ipecac. gr. i. ter in die; and she was directed to discontinue animal food. In a few days the gums were slightly touched, the cough at once ceased, the pulse fell to 80, and her appetite and strength rapidly returned. This case, I think, in conjunction with Carroll's, sufficiently establishes the position that a low degree of bronchial inflammation may subsist for a considerable time; that it cannot be detected by the stethoscope alone; that it is cured by local blood-letting and mild mercurials; that if allowed to proceed unchecked, it would most certainly terminate in phthisis; and that mercury, by removing that low degree of bronchial inflammation, may be employed as a most useful preventive of phthisis.

PHYSIOLOGICAL PROBLEM.

By William Griffin, M.D. Limerick.

Does suffering necessarily imply consciousness? Are sentient beings necessarily percipient?

NO. I.

It is a fact familiar to almost every medical practitioner, that a person in an apoplectic fit, if pinched severely in the hand or foot, will sometimes retract the injured limb, and perhaps utter a low groan or expression of suffering. We have the strongest grounds for believing that there is a total unconsciousness in this state, not only in the obvious insensibility of the special senses and the utter impossibility of arousing them, but in the invariable want of all recollection on the part of the sufferer, after recovery, of having experienced any pain or sensation whatsoever. It often occurred to me that it was difficult, if not impossible, to reconcile facts of this nature with the received physiological or metaphysical doctrines on the subject of sensation and consciousness; and to this conclusion I was eventually disposed still more to accede, some years since, on reading accounts of the experiments of Le Gallois, Fleurens, Magendie, and others, on living animals. It had been long universally believed that sensation, consciousness, and volition, were mental acts or functions connected with the cerebral lobes or true brain; but these physiologists have shewn, that although mental consciousness, and of course memory and the association of thoughts, are lost on the removal of those lobes, and, as a consequence, the capability of originating motion, an animal so mutilated may yet live long, is capable of sensation and of the instinctive actions most directly linked with sensations, shews a power of effecting regular and combined movements on external stimulation, and if pushed forwards will continue to advance, even after the impelling power has been wholly expended. It swallows what has been put into the mouth, moves its legs when irritated, and its wings when thrown into the air; but when not excited by any impression made on the senses, appears in a state of stupor; gives no signs of recollection, even of sensations just felt, nor of such emotions as sensations were wont

to excite, and cannot seek its food, nor even avoid obstacles thrown in its way.

It has been further proved that consciousness in its fullest sense, perception, memory, and the association of thoughts—the faculties lost in these experiments—belong strictly to the cerebral lobes; since, if these are left untouched, and the cerebellum removed, they remained unimpaired. An animal deprived of its cerebellum, loses all power of regular and combined movements. If placed on the back, it tries in vain to turn round; it perceives and is apprehensive of blows with which it is menaced, hears sounds, seems aware of danger, and makes attempts to escape, though ineffectually; in short, while it retains uninjured sensation and volition, it loses all power of rendering its muscles obedient to the will.

It appears very extraordinary, in reflecting on these experiments, that after the removal of the brain or cerebellum, or both, sensation and apparent volition should remain; for if it be true that consciousness, perception, and memory, are confined solely to the cerebral lobes, and of course extinguished in their removal, we have either the option of supposing that the motions we attribute to sensation and volition are altogether erroneously so attributed, or that there are in the system two independent centres of consciousness (a supposition which I believe all metaphysicians would look upon as an absurdity); or, finally, that the motions indicate neither sensation nor volition, but are entirely automatic.

M. Magendie has shewn, that after the brain and cerebellum are removed from the adult hedgehog, leaving the medulla oblongata entire to above the apparent origin of the fifth pair of nerves, the animal cries if a hair of its whisker be plucked, or if vinegar be held to its nose, and strives with its fore-feet to rid itself of the object which incommodes it.

Mr. Grainger had the brain removed in a young puppy, which was then put to a large bitch, not the mother, but which was suckling at the time. The puppy, on touching the mamma, threw up its nose and moved the mouth, trying to get hold of the nipple, which, however, was too large. Mr. Barron, who was performing the experiment for Mr. Grainger, then moistened his finger with sugar and water, and put it into the mouth; when the puppy sucked, the tongue being wrapped round the finger. The same experiment was performed, with a similar result, on another puppy; but the most remarkable fact in the last case was, that as the puppy lay on its side sucking the finger, it pushed out its feet in the same manner as young pigs exert theirs against the sow's dugs.

Lest it should be imagined that the brain was not perfectly removed in these experiments, it is sufficient to mention that motions quite as extraordinary, and apparently as much the result of volition, occur in animals after the head has been entirely removed. A frog left at rest after decapitation, will draw up its legs and assume the sitting posture. A decapitated serpent or salamander, when the surface of its body is touched, will turn its headless trunk in the direction of the irritation; and a fowl similarly mutilated, will run or fly, in a staggering or fluttering manner, across the floor, and, after the first convulsive struggles subside, will, if touched with a sharp instrument or a hot iron, wring the injured leg or wing with all the usual manner of pain.

Some of the most celebrated physiologists who were engaged in such experiments, impressed with an irresistible conviction that such phenomena were the result of sensation, were constrained to acknowledge the possible existence of two centres of sensation and voluntary motion, however inexplicable. Others virtually admitted as much, though in a qualified and obscure way. A third and larger number resisted the evidence of expression of pain or of suffering of the resulting muscular motions, and even of such motions obviously adapted to a purpose. They denied the existence of either sensation or volition, as connected with them, and were satisfied to view such remarkable phenomena as instinctive or automatic, analogous to those movements which are excited in internal organs or vessels by the stimulus of their fluids. More lately they have been considered as altogether the result of impressions on the extremities of the sentient nerves, propagated to the spinal cord and reflected back through the motor nerves. But in no instance has the correctness of the notions usually attached to the terms consciousness, sensation, perception, or volition, been questioned.

In support of the conclusion that the

movements in all these cases are automatic or reflex, it is argued that as the head, after its removal from the body, also retains its excitability or apparent sensibility, evinced by the motions of the ears when pricked or touched with a hot wire, we could not admit of sensation and volition in the trunk without acknowledging it likewise in the former; which would be, in fact, acknowledging the metaphysical absurdity already referred to, of two centres of consciousness co-existing in a single being. It is also said, on the same grounds, that as we have the strongest evidence for believing that consciousness, and therefore volition, are functions wholly confined to the anterior hemisphere of the brain, any phenomena, however remarkable, which survive the destruction or removal of those parts must depend upon some other influences; that they are not more extraordinary than the results of other instincts, which are neither connected with nor accompanied by sensation; and that there is not a single instance of automatic motion in parts supplied by spinal nerves, which may not be accounted for on the demonstrated property of the central axes to transmit impressions from the excitable to the exciting nerves, at any part where they are connected with it, independently of the rest.

It must appear, however, on reflection, that even admitting the facts upon which the foregoing inferences are founded — admitting the absurdity of supposing a second centre of consciousness in a single animal, and admitting that those supposed instinctive or automatic motions are the results of a reflex property in the cord, by which, when impressions are received by excitable nerves, actions are originated by motor ones without reference to the brain, the essential organ of consciousness, the assertion must still be regarded as pure assumption, that sensation is not in any degree concerned in movements so strongly characteristic of pain, so long as no more positive evidence of it is adduced than the mere absence of intellectual or mental consciousness. Magendie, Fleurens, and Rolando, have proved to us, that though memory and perception, and of course consciousness in its fullest sense, are lost in the destruction of the cerebral lobes, all the indications of common sensation and the power of effecting combined and regular movements on external stimulation, remain. Is it not, therefore, the natural and obvious inference that common sensation, which has survived the destruction of the cerebral organ, can have no dependence whatsoever on it?—and are we to reject this inference because metaphysicians, before they had sufficient data to reason upon, proposed speculative definitions of it, always confounding it with consciousness, and virtually identifying it with perception?

If we were to reject the evidence of analogy in favour of the existence of sensation, in such experiments as have been detailed, it would be exceedingly difficult to prove that any living being except man suffers. In man we have not only the evidence of close analogy, but of universal testimony to convince us. In the brute creation our inferences, absolute as they may be, are deduced wholly from the resemblances of their cries, or writhings, or other indications of pain, to our own. Yet these are so constantly observed throughout the animal creation, in connexion with such injuries as would occasion them in ourselves, that our conviction respecting their sufferings are in no degree less certain than when the same signs are observable in human beings. It is, indeed, no slight proof of the truth and reasonableness of this ready assent to strong and constant analogies, that the same ready belief is intuitively accorded, and pain inferred from cries and complaints in all living creatures by the infant, long before there exists any possibility of its forming deductions from analogy on such subjects. The same instinctive belief operates powerfully even in animals themselves, who evince the greatest degree of uneasiness when they hear the cries or complaints of their offspring or others of their kind.

There are few who have witnessed experiments even on recently decapitated animals, able to resist the strong impression of the existence of sensibility created by their movements on the application of stimuli. When these movements are said to be instinctive, or automatic, or reflex, and dependent solely upon impressions rather than sensations, it is merely assuming the point at issue, since the existence of instinctive or reflex motions offers no proof that they are independent of sensation, and, in fact, were admitted and believed to be

dependent on it, by the most celebrated physiologists, before the doctrine of reflex movements by impression assumed its present systematic form.

It is rendered sufficiently probable by the experiments of Fleurens, Bouillaud, and Magendie, that thought and sensation on the intellectual and sentient functions reside not only in different but in distant parts of the nervous system. It seems to be admitted on all hands as nearly certain, that consciousness, memory, perception, and the association of thoughts, are confined to the cerebral hemispheres, while Professor Alison states, "it is now satisfactorily ascertained that no part of the brain higher than the corpora quadrigemina, nor of the cerebellum, *is essentially concerned in sensation.*" Consciousness, therefore, or at least the faculties which are essential to it, belong to the cerebral lobes; sensation, or all the physical conditions necessary, that sensations (*qu.* impressions) may be felt, and that voluntary efforts may excite muscular contraction, belong to the spinal cord. When, with these admissions, we have the facts before us that the former class of functions, the purely mental, with the organs to which they belong, may be utterly destroyed, and yet the latter or sentient functions remain uninjured, it must be acknowledged that we have strong evidence for doubting the correctness of the present metaphysical notions attached to the terms consciousness and sensation.

Setting aside for a while any considerations on the subject of consciousness, let us inquire strictly into the value of the arguments upon which we conclude that sensation subsists after decapitation, and the degree in which it is possible to account for the phenomena indicative of it on any other hypothesis.

Independent of the instinctive belief already alluded to, which is probably mixed up with all our inferences in favour of the existence of sensation, wherever we perceive the usual indications of pain, we are influenced, partly by the correspondence of the movements which take place on injury after decapitation with those induced by similar injury in the perfect animal—partly by their adaptation to a determinate end—and, above all, by their occurring spontaneously, and, as it would seem, originating in pure volition.

The correspondence of the movements in headless or brainless animals, when injured, with the movements of unmutilated ones, is so remarkable that it would be unnecessary to offer an observation on it, if it had not been much questioned, and, in fact, denied, by some late physiologists. Mr. Grainger mentions a salamander in which the posterior extremities were paralyzed by division of the spinal cord, so that "by proceeding cautiously so that the animal could not see the approach of the hand, an entire leg was cut off with a pair of scissors without the creature moving, or giving any other expression of suffering." But in this case it is as difficult to understand why there was no reflex movement as why there was no pain, even taking the loss of the limb into account, in which of course the most violent results of the injury would have been shewn. Perhaps much importance cannot generally be attached to the absence of sentient or reflex phenomena in those experiments, where there has been much mutilation, as it may be dependent on loss of sensibility or of excitability from exhaustion. Volkmann was so sensible of this, that he deduced his proofs from the cases only in which motion occurred, not from those in which it failed, it being evident that reflex motions could take place only where the organic conditions were fulfilled, whereas these must often fail on account of the great destruction by the knife. The instances would be more to the purpose in which the same stimulus applied before decapitation and after it did not occasion precisely the same results, if any such could be well attested. In a frog, Mr. Grainger states that the application of heat to one of the extremities, either anterior or posterior, excited a simultaneous motion in both, an effect he asserts quite different from that produced in a perfect animal *in which the injured limb only is retracted.* As Mr. Grainger, however, in detailing other similar experiments, says merely "*in most instances*," it was found that only the leg belonging to the foot which was irritated was thrown backwards, and as I have myself seen, in the perfect animal as well as in the decapitated, sometimes the fretted leg and sometimes both retracted when only one was pricked with a sharp instrument, attributable perhaps to the varying intensity of the stimulus, his objection

loses much of its validity. In an experiment performed on a rabbit by Mr. Mayo, it is said, that when the foot was irritated, the movement of the limb was exactly similar to that which the animal would make if in indisputable possession of its sensation. In order to ascertain the correctness of this statement, Mr. Grainger mentions that "he pricked the hind foot in a rabbit, the cord of which was entire, when the animal moved the limb to avoid the irritation; but upon dividing the cord, and pricking the under part of the foot, a most violent motion was excited, and both legs were thrown back. Those gentlemen who were present, he states, were particularly struck with the difference of the movements in this rabbit before and after the division of the spinal cord."

In comparing the results of injuries inflicted on parts which are still in connexion with the brain with those inflicted on parts in which it has been cut off by division of the cord, Mr. Grainger seems to forget that in the one case he has the movements of pain, controlled or modified by volition; in the other, the simple instinctive results of pain without any such complication, and perhaps for that very reason the more energetic. It must not be inferred that arguments tending to prove the existence of sensation in parts separated from the brain go also to establish volition, which would necessarily imply the presence of mental as well as sentient functions, and with this understanding, a *strict* comparison could only be instituted, or *precisely* similar results expected, in dividing an animal which in its perfect state has no brain, and stimulating the separated segments. When animals possessing brain are decapitated, we can expect to witness only the instinctive effects of pain on stimulation, those movements most closely linked with their sensations, and these can bear no nearer comparison with the results of like injuries in perfect animals of the same kind, than as they are both admitted to be characteristic indications of suffering, and such as are known to be instinctive with the animal. Mr. Grainger seems to think the motions resulting from injury are more violent after decapitation than before. I have myself found so in experimenting upon two kittens which were taken out of a pond in a very enfeebled state, where they had been flung for the purpose of drowning them. Pricking the extremities excited only the feeblest motions previous to decapitation, but afterwards the slightest touch of a sharp instrument occasioned ready retraction of one or both limbs. Dr. Volkmann states that a stimulus produces reflex motions in decapitated amphibia, which, previous to decapitation, had no such effect. That these differences are partly attributable to the influence or operation of the will, as already suggested, there can I believe be little doubt. There are few persons who have not experienced sudden involuntary starting of the muscles of the limbs or of the whole body, and such motions are always found to take place most readily when the cerebral system is in a state of exhaustion or rest, as after great fatigue, or when dropping off to sleep, just at the time when consciousness and volition are at an end. A gentleman affected with partial paralysis of one side once mentioned to me, that whenever he put out the weak limb in progression it always took too long and too forcible a step—going off, in fact, with a jerk, for want of the due control of the will. Such facts sufficiently prove that the influence of the voluntary powers of the brain is constantly acting, and perhaps more frequently in controlling or modifying instinctive or sentient movements than in supporting or increasing their energy. I do not believe, however, that the absence or presence of the cerebral influence or operation of the will can explain altogether in all instances the differences observable in the effects of stimuli applied to perfect and to decapitated animals. We do not as yet understand all the causes which may effect these movements, nor can we thoroughly explain to what extent or in what manner even the known causes may influence or effect one another. To this conclusion the late experiments of Dr. Volkmann appear also to have led. "The will," he infers, "prevents reflex motions, because, of two opposing forces, the weaker must yield, and the power of the will is often sufficient to keep muscular motions in control. It is not asserted, however, that decapitation favours the production of reflex motions, solely by the removal of the mental influence: on the contrary, it appears probable that there are other, but *unknown* causes engaged; for the in-

clination of the nervous action to cross from filament to filament is so great in decapitated amphibia, that it would require a very uncommon degree of mental influence to contol them, on the assumption that it was the only controlling power."

But if, after all, there be a doubt that the movements of decapitated animals present as characteristic indications of sensation or suffering as the movements of perfect ones, it is fully compensated for by their obvious adaptation to a determinate end, and their frequent spontaniety, both of which phenomena are wholly inexplicable if the existence of sensation be rejected. Dr. Volkmann states that a decapitated tortoise, when irritated, conceals itself beneath its shell, and a decapitated frog comports itself according to the nature and degree of the irritation. When its fore feet are irritated, it withdraws them; when further irritated, it withdraws them further; and when yet further irritated, it draws them in below the belly, and changes the sitting for the recumbent position. When the posterior extremity is violently irritated whilst it is in the sitting position, it will bound forwards; when roughly seized in the thoracic region, it will plant its fore feet upon the hand which holds it, *and try to free itself;* and when the skin of the abdomen or back is seized with a forceps, it is by no means uncommon for the mutilated animal *to scratch the part with the posterior extremity of the corresponding side.* Mr. Grainger states that, " upon irritating the cloaca in a green frog which had been decapitated, the most violent motions were excited in the hind legs, *and repeated attempts were made by the limbs to remove the instrument with which the cloaca was touched.* This fact (he says) he has since repeatedly seen in the green and common frog, both when the head was removed, and when the spinal cord was divided in the back; and he has also noticed it in the common fly and other insects after decapitations. He has observed, too, that if, after having cut off the head in frogs, fire is applied to the fore part of the trunk, *violent motions to remove the source of excitement are made.*" It is, however, needless to multiply facts of this nature; they are now familiar to every vivisector, and prove most fully that the motions which result from irritation in decapitated animals possess all the characters of adaptation to a determinated end.

Dr. Marshall Hall, however, denying the sentient nature of the spinal cord, will not admit that either ordinary indications of pain, or the adaptation of movements to a determinate end, are any undoubted evidence of its existence. Spontaniety of action alone, he admits as the true test of sensibility; and this, with consciousness, he believes disappears after the removal of the brain, chiefly because decapitated animals, when once they become quiet, remain immoveable in their assumed position, if not irritated, as long as life remains. This latter (if the fact) would tend to prove absence of thought and volition rather than sensibility; but the experiments of numerous physiologists are directly opposed to it. Decapitated frogs, after remaining at perfect rest for some moments, are known to assume the sitting posture. In the experiments of Fleurens and Magendie, in which the brain was removed, the animals, when pushed forward, continued to move after the impelling force must have been wholly expended. Mr. Grainger found, on pricking the feet of the posterior half of the body of a salamander, which had been cut into two pieces, that the motions of the limbs and tail which followed were several times repeated, from the one application of the stimulus; and Dr. Marshall Hall states that a Coluber natrix, whose spinal marrow was divided between the second and third vertebræ, continued moving for a long time when once irritated, the movements at last gradually subsiding. Both Mr. Grainger and Dr. Hall explain these apparently spontaneous actions not as the result of sensations but of impressions, their continuance or repetition arising from new parts of the limbs or surface of the animals coming in contact with the table or ground at every altering position, and so occasioning new reflex movements. On this supposition, however, it would be more difficult to understand why the motions should cease at all, than why they commenced, at least as long as any power to move, or excitability remained. It would also be difficult to explain their ceasing gradually, as one might anticipate they would do if dependent on sensation, instead of suddenly, as a movement originating in mere impression might be expected to

do; and it remains to be shewn why, in the headless frog, the contact of new parts with the ground, when it assumed the sitting position, and felt, as it would seem, comfortable, occasioned no new movements. Professor Volkmann, who has been the latest experimenter on this subject, was so struck with the sentient nature of the movements, that he believed the decapitated animal was aware of the nature of the stimulus, and chose from a variety of means those which were best calculated to relieve it. Although I cannot go this length, I quite agree with the professor that the reasons Dr. Hall offers for supposing the movements depend upon impressions, and not upon sensations, are very unsatisfactory. Dr. Hall observes, they not unfrequently cease when the body is in a very uncomfortable or even painful position, if it retain sensation: they ceased, for instance, in a serpent whilst the tail was hanging over the sharp edge of a table, and were not renewed by pricking it, or burning it with the flame of a candle; but, as Dr. Volkmann remarks, their non-occurrence here was owing to the exhaustion of the excitability; and this is obvious, because pricking and burning in general produce reflex motions in decapitated animals.

In drawing inferences from such experiments as are here referred to, it is essential to recollect that the phenomena of sensation, especially those which include the combined and harmonious action of many muscles in one movement, can only be expected to take place where the organic conditions essential to the action of the cord are preserved, which they can seldom be for many minutes after decapitation in the more perfect animals. Hence it is that in amphibiæ, reptiles, and cold-blooded animals, they are found more energetic and lasting. In the classes of yet more simple structure, whose nervous systems consist merely of double cords without brain, the sentient or reflex phenomena are still more remarkable, for another reason. In proportion as animals are endowed with the higher powers of the mind—memory, consciousness, and perception—the instinctive and purely sentient actions are more feebly developed, and the dominion of pure volition more extended; but as the mental powers decrease, the actions of the muscles are less confided to volition, until they end altogether in dependence upon instinctive or sentient influences, where the cerebral portion of the nervous system entirely disappears. The action of the spinal cord, therefore, in man and the higher animals, after the removal of the brain, even if the conditions essential to the healthy performance of its functions were maintained, must necessarily be at all times less remarkable, and partake less of spontaniety or design, than in the segment of a polypus which was never endowed with any higher organization than a double nervous cord.

It will be observed that I have here spoken of sensation (feeling) and sentient action as independent of consciousness and volition in the popular sense in which these terms are made use of, guided in my inferences by pathological facts and anatomical experiments, without making any attempt to reconcile these with received metaphysical definitions of the mental faculties. In all animals, certain organs bearing more or less likeness to one another in the several classes, are essential to the performance of certain functions; and it seemed to me a fair inference, whenever an organ was wanting and no substitute could be discovered (supposing the animal large enough to admit of examination), that its functions were wanting also; as when no organs of vision can be found, it is justly concluded the animal is blind; and where no organ of hearing is discoverable, deafness is inferred. Thus as indications of sensation in organized beings are coexistent with a nervous system, and obviously dependent on it, the legitimate consequence of its absence in any organization would appear to be insensibility; and as we have the strongest evidence that the higher faculties of the mind, such as are essential to consciousness, belong to the cerebral hemispheres, whenever these organs are absent or destroyed, we unhesitatingly conclude that consciousness is absent or destroyed also. Conversely, we must infer, if certain faculties seem unimpaired after the destruction of particular organs, those faculties must belong to some of the organs which yet remain; and why such inference should not be considered as absolute as any of the former in establishing sensation or feeling as a property or function of the spinal cord, which so many experiments have proved

the unimpaired existence of, after the removal of the brain, it is difficult to say, unless the scepticism on the subject depends, as I believe it does, on erroneous notions of both consciousness and sensation derived from abstract reasonings on the mental faculties. Before we can advance one step further in this inquiry, it is essential to shew that these erroneous notions do actually exist, and have been universally received by psycologists from the remotest period to the present hour.

It is perhaps true, that we can arrive at a knowledge of the human mind only by reflection on its acts and operations; but it can be admitted solely on the understanding, that the inferences from these reflections are strictly tested by a comparison with the inferences from physiological investigations; and I question much whether, in any case, the metaphysician would not reason more securely if he first investigated accurately the construction and properties of the several nervous masses or organs with which the faculties of the mind are known to hold connexion, and so laid the foundations of his future and more abstract inquiries in anatomical and physiological facts, which no new views or discoveries could alter.

The very vague manner in which the terms mind, consciousness, perception, volition, and sensation, are employed by almost all writers, would sufficiently convince one of the truth of this, if it were not otherwise obvious. The term mind is sometimes used to express the understanding, thoughts, or intellectual functions only; sometimes these and the sentient, and sometimes the sentient alone, as when pure feeling or sensation is spoken of. Consciousness is used almost indifferently for perception or sensation, and these latter often as indifferently for one another. The term volition is applied with equal uncertainty, half the disputes relating to the voluntary or involuntary character of muscular action having arisen from a mere disagreement as to what volition means. Let us consider what we are to understand by these several terms, and first—of consciousness and volition.

[To be continued.]

OBJECTIONS TO MEDICAL CORONERS.

To the Editor of the Medical Gazette.

Sir,

May I be allowed a few words in explanation of a former communication you favoured me by inserting in the Gazette, the purport of which Dr. Fife does not seem exactly to have comprehended:—

I never intended to convey the idea that medical men were less able to discharge the functions of coroner than the present holders of that office; indeed, judging from the description of persons sometimes appointed to it, in the provincial districts, I can readily allow that they are more so. But it will be recollected, that a medical coroner has been held out, as the great panacea for all the evils and abuses of coroners' inquests, which have recently been so frequently brought to light. My fear is, that those whose duty it is to occupy themselves in remedying evils, which have been so abundantly proved, will now rest content, satisfied that the specific has been applied, and that the cure will result. Observe, you invest the *medical coroner* with a function which cannot appertain to the non-medical coroner, namely, that of criticizing the validity of the medical testimony, and that without any security whatever of his ability to do so. I do think that medical men will be acting foolishly by aiding in thus placing members of their body in a situation to dispute, or even condemn their statement or opinions, without any means of judging of or ensuring their capabilities for this delicate and difficult task, not electing them themselves, but receiving these their judges at the hands of men entirely unqualified to decide upon their merits. If the simple election of a medical man were to ensure an efficient medical coroner, the duty of the electors would be simple, and many of these remarks inapplicable.

I hope I have no disposition to speak disparagingly of the acquirements of my brethren, and no one can rejoice more than I do at the rapid progress of professional improvement; but no candid man will deny, not only the hazard, but the great difficulty, of finding medical men having a sufficiently practical

acquaintance with medical jurisprudence, to enable them to comment before an ignorant jury upon the opinions of the medical witnesses. Suppose the medical coroner and medical witness to be at issue as to the value of a piece of testimony. Who is to decide in a case so likely to happen? Verily, the decision of a question in medical jurisprudence will then rest with the jury!—a body of men, in all probability, wholly guiltless of any knowledge in the remotest degree bearing upon the subject. Certainly, this ridiculous state of things, by shewing still further the absurd nature of this tribunal may hasten its abolition; ill-adapted as it is for working out its professed objects at the present day, however useful it might have been at its first establishment.

But supposing that coroners' juries (however absurd in their constitution, and however inferior to the mode adopted on the continent for conducting such inquiries) are likely to continue, I ventured to suggest the appointment of district medical officers, who should become official witnesses before the coroners' courts in all cases of unusual death. Dr. Fife mistakes the object I have in view, when he observes, that to examine these witnesses, the coroner must be well informed on subjects of medical jurisprudence. The suggestion arose from the anticipation of the possible incompetency of the coroner. I consider that these officers, from the severity of their examination prior to their appointments, and their subsequent experience from constant opportunities, would become *authorities*, whose opinions should guide the coroner and jury, as far as the points submitted to their examination were concerned. Thus, say a man dies, who is supposed to be poisoned. The medical officer, after a careful *post-mortem* analysis of contents of stomach, &c. &c., arrives at his conclusion whether the deceased has died from poison or not. As far as this point is concerned, his decision should be final, and the jury should proceed to act upon it as a fact, confining their attention, in the case of poisoning, to discover whether it resulted from accident, suicide, or murder. Dr. Fife objects, that an officer of this description would displace the ordinary medical man, who, as matters stand at present, is now called in. This is not exactly the case; but even if it were—if the true interests of the public required such sacrifices, medical men must be prepared to make them; at the same time relieving themselves of a responsibility that many would be glad to be rid of. But the fact is, that the ordinary medical man would be called to accidents, &c. &c. as at present, and his remunerations would be the same; but he would be obliged to call in the aid of the official, in case of death, to conduct all subsequent examinations and processes, which, if they involved any delicate or unusual investigations, he would himself, in nine cases out of ten, be unable to do justice to.

I agree with Dr. Fife, that the duty of the coroner should be to assist the jury (ordinarily lacking assistance of some kind wofully) to the utmost of his power; but I would wish to guard against his attempting to assist them beyond his power, by substituting his opinion for that of the medical witness, who may, in some cases, be better informed than himself, notwithstanding which, both the jury and the public at large would certainly be biassed in favour of that of the coroner.

I am, sir,
Your obedient servant,
JOHN CHATTO.

London, April 3d, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Short Treatise on Typhus Fever. By G. L. ROUPELL, M.D. Physician to St. Bartholomew's Hospital, &c.

IT was scarcely to be expected that the fever which raged with such fearful virulence during the last year, among the poorer classes of the metropolis, and which still exists, though with a somewhat decreased intensity, should pass by without some notice from those under whose care a large proportion of the sufferers fell. We are glad that a subject of so great importance has fallen into the hands of the present author, whose offices at the Dreadnought Hospital Ship and at St. Bartholomew's have afforded the most favourable opportunities for observing every feature and phase of the disease. We shall give the best idea of how well he

has fulfilled his undertaking, by a brief abstract of the work before us.

The first object which it professes, is to prove that the typhus fever now prevalent, as well as that which raged particularly in 1831, and those described by Hildenbrand, Huxham, Pringle, Armstrong, Rasori, Louis, Chomel, &c. under various names of adynamic, gaol and hospital fever, nervous fever, &c. constitute a species of exanthema which is in all its essentials analogous to the eruptive fevers hitherto included under that title. This idea was, it may be remembered, expressed by our author in a paper read in 1831 at the College of Physicians: he then thought it original; but now, with a candour unfortunately too rare in the present day, he yields the honour of originality to Professor Hildenbrand, of Vienna—an author so little known in this country, that "not a single copy of his work in the original could be met with in any of our libraries." The grounds for considering typhus fever as an exanthema are as follows:—It is accompanied by a distinct rash; this is obscurely, yet certainly mentioned, by Huxham, Pringle, Rasori, Bateman, Sauvages, and Armstrong, and more distinctly by Chomel, and Louis, and Hildenbrand. Dr. Roupell has found it so constantly, that, allowing for circumstances which sometimes render it peculiarly difficult of detection (as its partial and fugitive appearance, its being unaccompanied by sensation, &c.), it may be considered as regular a symptom as the eruption of small-pox or measles. This rash most frequently appears on the fourth or fifth day of the disease; but, like those of measles and scarlatina, may be accelerated or retarded, or altogether absent; and, like them, is irregular in the time of its disappearance. "In truth, there is no peculiarity or anomaly (of the eruption) in typhus, which may not be found exemplified in scarlet fever, measles, or small-pox;" and the evidence which the author adduces, and the quotations he makes, sufficiently prove that the exceptional cases occur with nearly equal frequency in each disease.

Typhus fever, like the other exanthemata, may spread by infection. The obituary of our own profession affords too lamentable a proof of it; at least five of its members died within three months in 1838, and many more were attacked, but survived. At St. Bartholomew's six pupils were attacked during the session of 1837-8, and as many in the preceding; and among the nurses in that establishment, "infection was almost universal." But the most convincing proof was presented in 1831, when fever was so prevalent in the Refuge for Distressed Seamen, on the north side of the Thames, that it was found necessary to have a separate part of the house allotted to them. Numbers of the patients, however, were sent to the Floating Hospital, in which the fever did not exist previously. "The disorder then imported soon spread itself over the ship; patients admitted for surgical and other complaints were attacked; the residents on board suffered from fever of a similar kind, and the immediate attendants were severely visited. Of seven nurses employed for the fever patients, six were attacked; and from them the fever a third time made its appearance in a fresh situation, viz. in their houses on shore." All the attendants at the Refuge suffered from it, but there was no such disease on board other vessels near the Hospital Ship, nor yet on the south bank of the river, till it was carried there by the nurses. Dr. Roupell's evidence, therefore, with that of Dr. Tweedie, who shews that, with one exception (Dr. Bateman), all the "medical officers, matrons, porters, domestic servants, and nurses, and even the laundresses, at the Fever Hospital, have invariably been the subjects of fever," can no longer permit a reasonable doubt of the communication of typhus by infection.

Although "no prospect of complete immunity from a second attack can be held out to those who have once suffered from this fever," yet there appears to be some immunity, at least for a time; and similar exceptions to the general rule that other eruptive fevers affect the body but once are now so frequent, that in this character the analogy of typhus to them cannot be said to fail. It has, in general, "a certain period of duration," about twenty-one days; and here, again, the variations to which it is subject are met with in equal frequency, and of the same kind, in other exanthemata.

In severe epidemics of typhus, as in those of scarlatina and measles, cases sometimes occur in which the disease presents itself in a singularly mild and

modified form, lasting but a short time, and devoid of many of its most formidable symptoms, yet clearly identical in their nature with the most marked examples. In typhus, as in small-pox, scarlet fever, and measles, petechiæ are occasionally present, and hæmorrhages, especially epistaxis, are not uncommon concurrents. In all these diseases, again, erysipelas is a frequent concomitant or sequel—in all there is a great tendency to suppuration in various parts of the body, with but little disposition for adhesive inflammation—in all a remarkable liability to gangrene and sloughing, and to the peculiar train of symptoms termed "putrid."

In all these particulars, then—in both the essential and the occasional characters—typhus is clearly analogous to the eruptive fevers generally. We can only enumerate the facts which the author exhibits in detail, and in all cases supports by brief but perfectly apposite cases; but we have dwelt the longer on this part of the work, because, besides having novelty on its side, it is of the utmost importance not only nosologically, but practically, to prove that our knowledge of scarlet fever, measles, &c. may be applied by analogy in our investigations of so interesting a disease as typhus fever. In our opinion Dr. Roupell has fully proved this point, by fair and lucid arguments; he meets the chief objection, drawn from the improbability of the rash being so long overlooked, by the fact that it *is* mentioned more or less distinctly by all the writers of eminence, though not regarded by them as essential; and by the similar error in which measles and small-pox were confounded for 800 years, and measles and scarlatina not distinguished till the year 1781, though both had existed from the earliest records of medicine.

Dr. Roupell believes that "the poison of typhus enters the blood, and so infects the system. It does not, however, follow that the disease will manifest itself, even although the circulating fluids are so contaminated or infected as to produce the disease in another. The symptoms, it would seem, arise not from the admixture of the poison with the blood, but from the action of the fluids thus diseased upon the vascular and nervous systems." In the more severe cases, inflammation of various tissues, especially the cellular (the mucous of Meckel), occur; and the author inclines to the view that in most of them phlebitis, commencing in the smaller or the capillary veins, is the fundamental cause of the severest symptoms of typhus. The arguments for this are, of course, almost entirely analogical, being drawn chiefly from the similarity of what are commonly called typhoid symptoms, supervening after poisoned wounds and other injuries, to the more alarming symptoms of typhus. We cannot enter upon all the evidence in favour of this view; but it is at least as well supported as the encephalitic theory of Dr. Clutterbuck, or the gastro-enteritic of M. Louis.

We pass on to the treatment, in which the author is as practical and judicious as he is sound in his nosological arguments and ingenious in his pathological theory. In reference to bleeding, having shewn the confusion and contradictions of previous writers, Dr. Roupell says, "In some diseases, if you doubt, you should bleed, but in typhus the contrary obtains. That this remedy is very rarely to be employed in a late stage, there can be no doubt, but that it is eminently useful in the earlier ones I am quite convinced. Many earlier severe symptoms may thus be mitigated and controlled—many of the after consequences prevented." Emetics, also, he recommends in the early periods of the disease: they "may be given with immediate advantage at any time within the three first days; after this their benefit is less obvious, and seems to diminish in proportion as they are delayed." On purgatives he expresses nearly the same opinion; but says that they may, in small doses, be employed at any period of the disease in which they seem to be required, without the least fear. Of mercury, large quantities should not be given, unless in cases which present urgent inflammatory symptoms, but small doses are generally useful as an alterative. Of salines he speaks with less certain praise; of antimony, "it should only be used where there is inflammatory action and strength," and therefore, in many cases, notwithstanding Rasori's commendation, it is absolutely inadmissible. "On ordinary occasions and in general practice, Dr. Currie's suggestion of cold affusion over the body is unadvisable and unnecessary; but cold drinks are as innocent as they are agreeable to the

patient. Stimulants are absolutely necessary at certain periods, in many cases of typhus. There is no one period at which they may not be necessary, though they are rarely so in the earlier stages, and are more serviceable in the decline of the disorder. To know the proper moment for their administration is the greatest difficulty: the great object must be to maintain strength enough in the heart to enable the circulation to continue."

With some further remarks on minor points of treatment, the work is summed up with reference to the subjects of which we have made abstracts. It will be seen how important they are, and we will only say that they are all treated in the manner which their importance merits.

Hints to Mothers, &c. By THOMAS BULL, M.D., Physician-Accoucheur to the Finsbury Midwifery Institution, Lecturer on Midwifery, &c. Second edition, greatly enlarged. London, 1839. 12mo. pp. 305.

To the question, "What is the use of a new-born child?" we would offer the answer of Benjamin Franklin—"It may become a man;" yet to enable it to do so, requires a degree of watchful care to be bestowed upon it, directed by knowledge and judgment, which few who undertake the task possess. To furnish the knowledge requisite for the successful physical culture of the infant is quite as benevolent an office, and as necessary a one, as to provide the means for its future mental and moral training. Therefore do we regard favourably every work emanating from so competent a source, which tends to make the members of the next generation more healthy than their predecessors. Dr. Bull, in the volume before us, justly considers that the manner in which the pregnant female acts in respect to her own health and habits has a most material influence on the subsequent structure and health of her offspring. To the parent he addresses his first advice, detailed in language so clear, yet so devoid of every approach to indelicacy, that those who read and apply his instructions cannot fail to benefit by them. The order in which the subjects are treated is not only lucid, but such that his book constitutes a volume which may be successively referred to in each advancing month of pregnancy. The disorders liable to occur after confinement are treated of in a similar manner; and the remaining portion of his pages are devoted to matters concerning nursing, whether by the mother, "wet-nurse," or bringing up "by hand." A few rules and suggestions for the management of the early years of infancy are added; and a copious index guides those who may wish to consult it for any special purpose, or to obtain information quickly how to act in cases of emergency, such as when the child is still-born.

We have one exception to take with it, namely, with some of the formulæ; not that they are inappropriate, but that in either compounding, or copying them out for a chemist, mistakes are apt to be committed which might be fatal. We submit to the consideration of Dr. Bull the following:—

> Battley's Sedative Solution of Opium, one drachm; Compound Tincture of Lavender, half an ounce; Distilled Peppermint water, six ounces. Two table spoonsful to be taken before retiring to rest.

What correct criterion are common people to use to know what a drachm is? And an excess of Battley's sedative is not a very safe sleeping draught. Such may be omitted with advantage.

As a subject of physiological curiosity, should any reader doubt, from the solitary case cited out of Franklin's Narrative of a Journey to the Frozen Sea, the possibility of a *male* to give suck in Humboldt's Personal Narrative may be found such a number of well-authenticated instances as may remove the incredulity of the most sceptical.

This little manual will prove useful exactly in proportion to the extent of its circulation. We therefore wish it a wide diffusion among those for whose benefit it has been written.

A Manual for Students who are preparing for Examination at Apothecaries' Hall, &c. By WILLIAM MEADE, M.R.C.S.

THE object of this book is sufficiently explained by its title, and few words regarding it will suffice. It contains a great deal of judiciously-compiled information, calculated to be useful to the student who is *cramming*. Midwifery

and surgery are, however, not touched on; the physiology and, we may add, the anatomy, are rather meagre, and an index, or a table of contents, is much wanted.

MEDICAL GAZETTE.

Saturday, April 13, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

TREATMENT OF POISONING.

A WRITER in the *Gazette des Hôpitaux*, who would appear to be strongly imbued with the doctrines of the Italian school, gave a commentary, not long since, on the treatment of poisoning, his text being four cases which occurred in the London Hospital; and though his observations, if judged by received opinions, are somewhat paradoxical, yet they belong to an ingenious thinker, and cannot be studied without profit, even by those who read only to refute them.

The treatment in the original cases was as follows:—

CASE I.—A man who had taken two ounces of sulphuric acid was admitted into the hospital twenty hours afterwards. He was ordered several doses of calcined magnesia (which he swallowed with difficulty), and mucilaginous drinks, while bottles of hot water were applied to his feet and legs; but these remedies were too late; the patient continued to sink, and died in about three hours after his admission.

CASE II.—A seaman was admitted a quarter of an hour after having swallowed 140 drops of prussic acid. The stomach was immediately emptied by the stomach-pump, and a solution of carbonate of ammonia was injected, and then an ounce of brandy, and these injections were repeated. The face and chest of the patient were sprinkled with cold water; he became quiet, having previously been convulsed, and recovered his consciousness. He was then undressed, and put to bed; bottles of hot water were applied to his feet, and mustard poultices to his legs; a turpentine clyster was administered, which acted copiously. The patient now fell asleep, and remained so for several hours. On awaking, he was perfectly calm, complaining only of slight headache; and in a few days he went out cured.

CASE III.—Rebecca Adams was admitted half an hour after having taken twopennyworth of acetate of lead. About a pint of the compound infusion of roses was injected by the stomach-pump, in order to decompose the poison, and form an insoluble sulphate of lead; and all the fluid in the stomach was then withdrawn. She was put to bed, hot fomentations were applied to the legs and feet, and several doses of camphor and ether were administered. She was much benefited by these measures, and an hour afterwards she took an ounce of castor-oil, which acted briskly.

The following morning the patient had a decided fever, and intense pain at the pit of the stomach. The saline mixture, with leeches and blisters to the præcordial region, relieved her considerably, and she finally recovered.

CASE IV.—A girl of 19 was admitted in the evening, six hours after having swallowed half an ounce of oxalic acid. From the time which had elapsed, the stomach-pump was thought useless, and an ounce and a half of castor-oil was prescribed, after which she slept till the next morning. On waking, she complained of pain in the epigastrium, for which twenty leeches were applied, and a saline and mucilaginous draught administered. She recovered.

The Parisian critic comments upon these cases, and discusses the general question, in the following manner:—

"In every case of poisoning there are two principal indications to be fulfilled; the one is, to remove or neutralize the poison; the other, to combat the dynamic effects of the injurious substance. Much has been done to fulfil the first indication, and, thanks to the progress of chemistry, we know the antidote for almost every poison; but all yet re-

mains to be done with reference to the second indication.

No chemist, we think, will allow that every poison has a known antidote; and few physicians, we hope, will agree with our contemporary that *all* remains to be done, as far as medical treatment of the symptoms is concerned.

Our chemical agents, he adds, intended to neutralize the poison, do not always reach the stomach in time, and the stomach-pump is not in every case at hand; while, as to emetics, besides their not being always swallowed, they sometimes do not act, and sometimes when they do, it is too late. He asserts that the fatal effect of poisons does not in general proceed from the disorganization of the œsophagus and stomach which they cause; they do not destroy life till they have been absorbed into the blood, and have acted upon the vitality of the frame. This is proved—

1st. By injecting the same quantity of a poison into the veins, when its effects are both quicker and more formidable than when introduced into the stomach.

2dly. By a given quantity of a poison in solution introduced into the stomach, or poured upon the surface of a wound, acting far more violently than when in a solid state. In the latter case, though the doses may have been tripled or quadrupled, they do not produce vital effects in proportion to the quantity; this is accounted for by the slowness with which the poison is absorbed when in this form.

3dly. By a poison proving fatal in a few seconds, without leaving a slough in the stomach or elsewhere.

Hence, says the French commentator, when a poison has been taken either into the stomach or the rectum, and it can no longer be evacuated or neutralized, the duty of the physician is, first of all, to combat its vital or dynamic effects, by remedies which act in a contrary manner; and, secondly, to treat its local, mechanical, or physico-chemical effects, which commonly consist of irritation, inflammation, or mortification of the tissues with which the poisonous substance has been in contact; but as the local injury does not kill immediately, it is the dynamic impression which must first be resisted.

To fulfil the first indication, it is of course necessary to have a clear idea of the impression produced upon the system by a given poison; otherwise the physician will be apt to go astray, and administer medicines not only useless, but absolutely assisting the action of the poison. A man, for instance, has swallowed sulphuric acid; he is bled, and leeches are applied to the epigastrium; milk, albumen, and gum-water, are given him; and then we have a long dissertation on the arborizations and coagula found in the post-mortem examination! If *la médecine expectante* had never been blameable before, it would be so in a case like this.

Our Parisian brother then proceeds to comment on the London cases.

The first was a case of poisoning by sulphuric acid, and the patient was in a state of general depression, with a pale face, thready pulse, and cold sweats. To these the commentator here adds *apathy;* whereas, in his original account, he mentions *extreme anxiety*, which is quite the reverse. Compare, he says, these symptoms with those which have occurred in the cases of poisoning by the same acid, and you will be obliged to adopt the conclusion of Rasori and Tommasini — that sulphuric acid is a depressing or contra-stimulant substance of the first order, and that it kills by lowering and exhausting the vitality of the frame. Hence it follows, according to the French authorities, that the dynamic effects of this poison should be combated by stimulants — such

as ammonia, ether, alcoholic drinks and opiates. It has been shewn by experiments on animals, that when this variety of poisoning is treated antiphlogistically, death is much hastened; while large doses of brandy, ammonia, diluted alcohol, and morphia, relieve the symptoms, and prolong existence, or even effect a cure if the dose of the poison was not too large or the assistance too late. When such a case, therefore, occurs in practice, after having endeavoured to remove or neutralize the poison, the case is to be treated like one of poisoning by the bite of a viper—namely, with ammonia and ether, by the mouth and in a clyster; the body is to be rubbed with hot brandy, and a potion containing morphia is to be administered, as well as enemata of hot wine. This last expedient is particularly advisable, as the experiments of Cramer and Brinckle shew that drunkenness, caused either by wine or brandy, is dissipated by sulphuric acid.

These are the means to be first used to relieve the depression of the system; yet we are not to forget that the local and chemical injury, which is of an opposite kind, must also be attended to, as the re-action which it causes is equally to be feared. The preceding remedies, however, are first to be administered, and it is then only that antiphlogistic treatment can be successfully employed.

Such are the chief arguments of the *Gazette des Hôpitaux* on the proper method of treating this variety of poisoning: we fear that their practical application would not be very easy. In the case of the patient in the London Hospital, not only was there extreme anxiety instead of apathy, as we have already remarked, but a burning sensation extending along the whole œsophagus; so that, we apprehend, neither Rasorian nor Tommasinian would have ventured to administer ammonia or ether. When treating the primary depression, the physician must anticipate the inflammation of the stomach which will soon ensue; and how is this to be done, if he trusts to the doctrine of the Italian school?

In his observations on the next case, our contemporary goes so far as to say that the nature of the action of hydrocyanic acid is not different from that of the sulphuric; and he adds, that although it has the property of exciting muscular contractions, yet its real effect upon the vital system is that of a contra-stimulant. We believe the truth to be, that hydrocyanic acid, if the dose is small, is not productive of any remarkable depression; whereas, if the dose is very large, the brain is utterly exhausted, and immediate death is the result*. It is the sedative effects of this poison which the physician is called upon to treat, and it is fortunate that there is little or no difference of opinion as to the best antidote. Ammonia and brandy, which the *Gazette* mentions, and the cold affusion, which it omits, are, no doubt, the fittest remedies: there is also good evidence in favour of chlorine.

Sugar of lead, the poison swallowed in the third case, is another contra-stimulant, says our contemporary, and its effects are to be counteracted by the exhibition of opium. He adds, that it is a strange illusion to suppose, as some do, that sulphuric acid may be substituted for opiates. It is hardly necessary to observe, that while the critic is afraid of sulphuric acid, because it is a contra-stimulant, like the poison which it is to combat, those who give it expect that it will combine with the lead

* For instances in which it has appeared to possess a stimulating power the reader may consult the experiments of Dr. Jörg, of Leipsic. *Materialien zu einer künftigen Materia Medica.*—Materials for a future Materia Medica.

still remaining in the stomach or intestines.

The fourth case is dismissed with the utmost brevity: the physiological phenomena resulting from poisoning with oxalic acid are the same as those produced by the preceding substances, and the treatment is consequently to be the same.

But imagine an opposite case; suppose a stimulant poison to have been taken, such as opium, or alcoholic beverages—what is to be done then? In a case of poisoning by opium, which the critic lately reported, the strongest stimulants, such as ammonia and brandy, only made the symptoms more intense. How could it be otherwise, he asks? Look at the man who is dead drunk, either from alcohol, or opium: the pulse is full and strong; the face of an apoplectic cast; the respiration stertorous, with moaning, and the signs of cerebral congestion. In such a case the indications are exactly the same as in sanguineous apoplexy; the first remedy is bleeding, after which come contra-stimulant medicines, such as dilute sulphuric acid, belladonna, &c. These recommendations are rather startling. To bleed before the poison is removed would favour its absorption; the sulphuric acid would form a sulphate of morphia, and thus, perhaps, increase the activity of the opium; and belladonna, in its power of disturbing the brain, has a great resemblance to the poison which it is intended to counteract!

Experience seems to say, that ammonia is beneficial against intoxication; but if so, the Italian school is wrong, and, indeed, most other schools too, for alcohol and ammonia are both stimulants. The Parisian annotator denies the fact, and supposes that there has been a mistake about the matter, "ainsi que le fait observer, bien à propos, le Professeur Giacomini." He says that he was not successful in a case of intoxication which he treated with ammonia, and shall keep to his present opinion till the contrary is demonstrated. Perhaps, however, without waiting for any new lights, the solution of the difficulty may be, that slight intoxication is relieved by ammonia, while the remedy has no effect, or a bad one, in those graver cases where a deep impression has been made on the cerebral circulation:—

——— Evœ: parce, Liber,
Parce, gravi metuende thyrso!

CLINICAL LECTURES ON SURGERY,

Delivered at the Middlesex Hospital,

By Mr. Arnott.

1. *Symblepharon, the effect of Mortar.*
2. *Iritis.—Use of Turpentine.*
3. *Chronic Corneitis.—Use of Iodide of Potassium.*
4. *Deafness from Disease of the lining Membrane of the Tympanum.—Use of the Acetate of Lead.*

On looking at the right eye of the boy, Henry Wicks, who was admitted two days ago, the impression produced upon those who are not familiar with cases of this description, is, that it is one of pterygium, there being a fleshy membrane covering a portion of the sclerotic coat and cornea, and formed apparently of thickened conjunctiva, redder and more vascular than natural. But it will be observed that the membrane is not placed towards the inner or outer angle of the eye, the former of which more especially is the usual seat of pterygium; that, instead of its shape being triangular, like this diseased change, it occupies fully one-half of the exposed part of the globe, one-half of the cornea as well as of the sclerotic, and that this half is the lower; that, instead of being but loosely attached to the coats of the eye just adverted to, it is firmly united to them; and, lastly, that it has a glistening appearance, like that of a cicatrix. But it will further be noticed, that a prolongation of the same fleshy membrane passes from the globe to the inner surface of the lower lid, forming a broad and unnatural bond of union between these parts. These circumstances

prove the case to be one *not* of pterygium, and whilst the fact last alluded to certainly entitles the disease to the appellation of symblepharon—the hard name by which ophthalmologists are pleased to designate adhesion between the globe and the lid—it also leads to the inference that the change in the conjunctiva oculi is the consequence of the same cause which produced this unnatural union. Accordingly, on inquiry it is found that the whole diseased condition in the eye of the boy is the result of mortar having fallen into it five months ago.

The effect of mortar, lime, and mineral acids, applied to the delicate coverings of the eye, is to produce sloughing and inflammation of the parts with which they come into contact. Undiluted, and in sufficient quantity, the parts they touch are killed; and on separation of the sloughs taking place, if these have involved both the globe and the lid, the granulations from the two surfaces inoculate and unite. But this union may take place without having been preceded by actual sloughing of the surfaces; at least I have seen the thickened, seamed state of the conjunctiva oculi the consequence of severe burns, where a mass of flame had suddenly struck the organ, as from the explosion of gunpowder. Immediately after such accidents, I have observed that the cuticular covering was separated from the subjacent part of the conjunctiva on the cornea as well as on the sclerotic, and that the healing of this exposed surface of conjunctiva was as tedious as that of the skin similarly placed from a burn or scald, and that the result has been equally a cicatrized appearance of the part. Should a granulating surface thus produced exist at the same time on the conjunctiva of the sclerotic and lid, the parts might unite without any sloughing having preceded.

In the treatment of the case of this boy, two questions are presented to us:—The expediency of separating the unnatural adhesion between the lid and the globe; the possibility and propriety of removing the opaque membrane from the latter. With regard to the first, it will be noticed that the union is not very close, and that the uniting medium has been somewhat elongated, so as to assume the appearance of a membrance, and that thus the motions of the parts are not materially impeded. The lad can turn the eye in any direction; in some of these, it is true, dragging slightly on the eyelid. The motions of the other eye are not impaired. And when it is considered that in similar circumstances when the parts have been divided, the attempts to maintain them so have almost invariably failed, and that re-union has taken place, there is but little inducement for us to effect the division in the present case.

With respect to the opaque portion of conjunctiva covering the cornea, as this interfered materially with vision, the successful removal of it would be very desirable. But, in the first place, from the close adhesion of this cicatrized membrane to the subjacent cornea, very different from its loose attachment in cases of pterygium, this could not be easily effected; it would, in fact, require to be shaved off, and then there could be little doubt that the cicatrix to be formed subsequent to its removal would be opaque. On these grounds my present impression is, that not much advantage is likely to arise from any interference with the case, although an operation may be tried without much risk of making matters worse. The boy has only been two days in the house, and I shall reconsider his case.

Among the inflammatory affections of the eye there is no one usually more amenable to treatment that iritis; and there is one remedy more especially so generally successful in the cure of this disease, that it is apt to be too implicitly relied on. When the exhibition of mercury has been followed by its peculiar effects on the system, the symptoms of iritis in the majority of cases subside, and the consequence of the inflammation, provided this has not been of too long standing, are removed. But it is not always that we are able to obtain the peculiar action of mercury on the system by any mode in which it is employed; and when this is obtained, it is not invariably that the symptoms of iritis disappear. Moreover, there are constitutions and conditions of health in which it is not expedient to administer this remedy. Under these various circumstances it is important for us to know and recollect that there are other remedies which occasionally exercise a beneficial effect in arresting the progress of iritis when the more common remedies have failed, or are inappropriate.

An instance of this has been witnessed in the case of Elizabeth Dean, who was admitted with iritis of both eyes, and presenting the ordinary symptoms. The disease had existed a month; there was considerable intolerance of light, and redness of the sclerotica; immoveable iris; pupil of its natural size, but irregular, with lymph in small quantity within each; and vision so impaired that she could not distinguish the largest letters. There was no evidence of syphilis.

Previous to the exhibition of calomel, and along with the application of belladonna,

an active aperient was given, and the patient was cupped on the temples. By these means a diminution of the redness and intolerance of light was obtained. But as the mercury produced no effect on the system, the cupping was repeated at the end of a week.

The abstraction of blood in instances of iritis may be resorted to with advantage under different circumstances and views: at first, directly to diminish the violence of the inflammatory action. Again, when the mercury does not act, loss of blood will sometimes, as is well known, be followed by the appearance of this action on the gums. And lastly, I have repeatedly witnessed that the symptoms of iritis have persisted even after the system has been fairly brought under the mercurial action; but then that they have given way when cupping was now been resorted to.

In the present case, however, the system resisted the action of mercury, and the disease the remedy and the abstraction of blood. Besides having been twice cupped, leeches were twice applied, and ultimately the patient took two grains of calomel and two of Pil. Hydrag. every four hous, and at the same time to rub in the mercurial ointment, but without any effect on the mouth or on the iritis.

Under these circumstances, spirit of turpentine, as recommended by Mr. Hugh Carmichael, was given in doses of a drachm, in emulsion, three times a day. The effect of this was very marked, for in two days the redness had greatly diminished, and in a week the symptoms of active inflammation had wholly subsided, leaving irregularity of the pupil, and points of adhesion, but with the vision restored. My experience of the utility of turpentine is but limited, and I have not seen a case where its beneficial effects were so striking as in the present one.

One objection to the remedy, where it might be thought advisable, is the difficulty or even impossibility of some stomachs retaining it. Dean had, at a subsequent period, a trifling relapse; and then, on again trying the turpentine, it had become so nauseous to her that she could hardly be induced to take it, and when she did it was rejected. Fortunately the symptoms yielded to cupping and to tartarized antimony taken internally.

During the time Elizabeth Dean was under treatment, there was in the adjoining ward an example of another affection of the eye which was benefited by a remedy occasionally useful: I allude to iodide of potassium in chronic corneitis.

Adelaide Neves, æt. 9, was admitted on account of a phagedenic ulcer, of the size of a crown-piece, seated on the fore-arm near the elbow. The surface of the ulcer was pulpy, of a yellow colour, interspersed with red points; the surrounding margin of skin was of a fiery red, with intolerable pain. The cornea of the left eye was generally hazy, and in parts slightly clouded, apparently from effusion into its texture. A zone of minute red vessels occupied the sclerotic all round the cornea, and there was slight increased sensibility to light. The child had a peculiar huskiness of voice, which, with a cachectic appearance, and the character of the sore, led to the suspicion of some taint being present in the system; but this could not be substantiated. The sore had existed in a milder form for some months; the voice became affected soon after its first occurrence; the affection of the eye had been added within the last few weeks.

In the treatment of phagedenic sore with the characters here presented to us, and with pain so excessive, opium is the most efficient agent in obtaining immediate relief and improvement; accordingly, two grains and a half of the compound soap pill were given night and morning; and lint, wetted with a lotion composed of equal parts of liquor opii sedativus and water, was kept applied to the sore; and in two days afterwards there was associated with these compound decoction of sarsaparilla, with the extract; to which were added meat and beer. The result of this treatment was, that the girl obtained rest at night—that the severe pain in the ulcer gradually ceased—that its surface lost its foul character, and assumed in the course of a week that of a granulating sore. Three grains of the iodide of potassium were now added to each dose of sarsaparilla given three times a day. In ten days from this time the redness of the sclerotic had disappeared, the cornea itself being somewhat clearer; and under the continued use of these remedies (for the opium had been omitted) the eye has recovered its natural appearance, with the exception of a trifling haziness, of very limited extent, in the centre of the cornea. The patient is still under treatment, and this may perhaps eventually disappear. The voice has likewise recovered its natural tone.

As a general rule, mercury is to be preferred, and is most to be depended upon in chronic corneitis; but the existence of phagedena, and the state of the constitution, precluded its employment in the present case. I attribute the improvement in the eye to the iodide of potassium, which has at times proved serviceable in similar cases; yet as it was here associated with sarsaparilla and good diet, and as

these means contribute so materially to the removal of that cachectic state of system, or feeble state of the general health, with which chronic corneitis is so often connected, it may not, perhaps, be entitled to the chief merit as regards the removal of the corneitis.

Whilst these cases were under treatment you also witnessed an example of the advantages occasionally derived from appropriate treatment in diseases of another of the organs of sense—viz. the ear.

Like the eye, the ear is a complex organ, and imperfection of its functions may depend on disease seated in very different parts: in the external auditory passage, the tympanum, or the internal ear. Consulted as to the cause of distress, our attention is first directed to ascertain whether this does not originate in the first-mentioned part, where it may be produced by a variety of diseased conditions. It may depend upon an accumulation of wax—on inflammation and swelling of the parietes of the passage—on inflammation with puriform secretion—on ulceration and granulation—on true polypus—on inflammation and thickening of the tympanum. Then it may arise from disease within the tympanum, with or without perforation of the membrane—with or without caries of the temporal bone, &c. &c.

In examining the auditory passage, of course we avail ourselves of all the advantages of good light, and, if possible, place the patient so that the rays of the sun may fall directly into it. Additional and great facilities for ascertaining the state of the bottom of this passage, and of the membrana tympani, are obtained by the employment of the speculum auris; for although, in many cases where the passage is wide, and without any lateral projections, we can view the whole extent of these parts without such aid, in numerous cases we cannot do so; and then the speculum, by making the passage straight, and enabling us to dilate it (a mere trifle, it is true), affords us the advantage of a more satisfactory examination.

Thomas Parker, æt. 19, was admitted January 28th, with ulcer of the leg. He was deaf, and his countenance was characteristic of that infirmity. On an accurate examination of the degree to which this sense was impaired, a watch was employed, the ticking of which can be heard at the distance of 20 feet. Parker could not recognize it with his left ear further off than five inches; with the *right*, not further than nineteen. There was no redness, swelling, or rawness, of the parietes of the external meatus. Not the slightest appearance of wax in the left, and but a very trifling in the right ear. The membrana tympani in each was gone; the cavity of the tympanum in both was filled with a milky secretion, devoid of offensive odour. This having been in some degree removed by syringing the parts, the lining membrane of the tympanum was seen to be more tumid and redder than natural. The patient had been deaf since he was a child; he had always had more or less discharge from his ears, and had been told that some bones had come away. Repeated blistering, and a variety of injections, had been ineffectually tried by him.

Besides the destruction of the membrana tympani, and loss of the bones of the ear, the chief existing morbid action seemed to be seated in the mucous membrane of that cavity itself, unconnected with disease of the temporal bone.

With the view of correcting this, a solution of the acetate of lead—six grains to the ounce of water—was ordered to be dropped into the ear twice daily, and the parts to be syringed with it once daily. Under this treatment the improvement was unexpectedly rapid. In five days the hearing distance of the left ear had increased from five inches to two feet ten inches; in the right, from nineteen inches to seven feet five inches; and (without taking the intermediate periods) in three weeks, in the left ear, to fifteen feet; and in the right, to eighteen. Long previous to this, however, he was quite able to take part in conversation, and his countenance had assumed an expression of intelligence, most singularly contrasting with its former dulness and apparent stupidity. The discharge now ceased, and the lining of the cavity of the tympanum had lost that swollen and pulpy appearance it had previously presented. And, probably connected with these changes, the patient was now able to cause air to pass from the throat out of the external ear, which in the first instance he could not do.

The acetate of lead is a safer application to the ear than the more powerful astringents; and the present case shews its beneficial effects in remedying a diseased state of the mucous membrane of the cavity of the tympanum. This diseased state removed, hearing was restored to a degree which, perhaps, you might not have expected, if you previously supposed the existence of the membrana tympani absolutely essential for hearing.

ROYAL MEDICAL AND CHIRURGICAL SOCIEY.

April 9, 1839.

Sir B. Brodie, Bart. President, in the Chair.

A case of Enlargement from Encephaloid and Melanoid Disease of the Prostate Gland in a Child of five years old. By Richard A. Stafford, Esq. Surgeon to the St. Marylebone Infirmary.

A preparation from the museum of St. Bartholomew's Hospital was shewn in illustration of the paper, exhibiting an enlargement of the prostate gland in the child in question, to the size of a large walnut. There was no disease of the kidneys.

Memoirs on some Principles of Pathology in the Nervous System. By Marshall Hall, M.D., F.R.S.L. & E., &c.

Memoir I.—on the condition of the muscular irritability in paralytic limbs.

There has been much discrepancy of opinion amongst physiologists and practitioners on the points treated of in this memoir. Prochaska, Nysten, and Le Gallois, stating that the muscular irritability is undiminished; Professor Müller and Dr. Sticker, that it is not only diminished, but annihilated.

The author having quoted these opinions proceeds to state his own, and to reconcile the prevailing apparent contradiction. He shews that an error has arisen from taking the term paralysis in too general a sense, and proposes to make a specific distinction between those cases in which the power of the cerebrum merely is removed; or of *cerebral paralysis*, and those in which the power of the spinal marrow is removed also; or of *spinal paralysis*. In order to accomplish this more completely than has been done before, he has, in a figure which accompanies his paper, drawn lines, in any point of which disease may be supposed to occur, and which he proposes to designate *lines of separation*. Of these, certain lines separate the influence of the cerebrum, and are the seat of cerebral paralysis; while others separate that of the spinal marrow, and are the seat of spinal paralysis. The figure is necessary to make this perfectly distinct.

The author then proceeds to state, that in every case of mere cerebral paralysis the irritability of the muscular fibre is not only not annihilated, not only undiminished, but usually greatly augmented—a fact previously unknown and unsuspected. Whereas, in every case of spinal paralysis, the irritability of the muscular fibre is gradually lost, and eventually perhaps annihilated.

The application which these facts have to physiology and practice are principally these:—The spinal marrow, exclusively of the cerebrum, is proved to be the source of the irritability of the muscular fibre: the cerebrum, so far from being so, is an exhauster of this power. In dubious cases, augmented irritability proves that the disease is cerebral paralysis—diminished irritability, that it is *spinal* paralysis. The principle, therefore, becomes a source of *diagnosis*, of the importance of which it is needless to speak.

The same principles enable us to account for the fact, that strychnine, given in certain cases of paralysis, affects first and principally the paralytic limbs. But they lead to the correction of an erroneous generalization of this fact by M. Fouquier, for it is true of cerebral paralysis, in which the irritability of the muscular fibre is augmented only, and not of spinal paralysis, in which that irritability is diminished. The strychnine seems to act on the spinal marrow, and along the motor nerves, upon the muscular fibre, and more, of course, upon those muscles whose irritability is augmented or unimpaired, and therefore, most upon the paralytic limbs in cerebral paralysis, and upon the healthy limbs in spinal paralysis.

The author next explains the action of motion, of certain acts of respiration, as yawning, and of the principle of tone, upon the paralytic limb, in cerebral hemiplegia, whilst the healthy limbs are comparatively little affected.

These points are established by a series of physiological experiments, and clinical observations or cases. The galvanic trough is used as the test of irritability, and consequently as a means of diagnosis.

ROYAL INSTITUTION.

March 8th, 1839.

Mr. Brayley on the Comparative Influence of Heat and Gravitation in regulating the Density of the Atmosphere.

The lecturer introduced his subject with a concise account of the dynamical and statical properties of atmospheric air—that most important agent in all mechanical and vital processes. He explained experimentally the amount of pressure exercised by this medium on all surfaces, by exhausting a tin vessel over an air-pump, when its sides were forced in by the incumbent weight. He satisfactorily ex-

plained the nature of the Torricellian vacuum, and the truth of the highly important fact, that the weight of a column of mercury thirty inches high is equal to that of a column of the atmospheric air extending to its whole height. The weight of such a column being equal to the weight of mercury contained in the barometer, and counterbalancing it, and the proportion of weight likewise being known between equal bulks of air and mercury, it will be easy to find the height of such a column, and consequently of the atmosphere itself. Thus the height of a homogeneous atmosphere would be about five miles and a quarter. But the prevailing notion has ever been, that the air, from its elasticity, would diminish in density in the direct ratio of its distance from the earth's surface, and that, consequently, if the actual atmosphere could be divided into strata of an inch thick, each stratum would be less and less dense as we approach the top of the atmosphere.

The existence of a definite limit to the atmosphere was first conceived by Kepler, in whose fertile and original mind the seeds of so many great discoveries were developed; and he sought to determine its elevation by means of the duration of the twilight. By an ingenious and interesting process, which writers on astronomy explain, he convinced himself that its height was between forty and fifty miles.

Dr. Wollaston says that, from the law of the elasticity of the atmosphere which prevails within certain limits, we know the degrees of rarity corresponding to different elevations from the earth's surface; and if we admit that air has been rarified so as to sustain only one-hundredth part of an inch of barometrical pressure, and that this measure has afforded a true estimate of its rarity, we should infer from the law that it extends to the height of forty miles, with properties yet unimpaired by extreme rarefaction. Beyond this limit we are left to conjecture.

Mr. Ivory says, if the divisibility of matter be infinite, so must the extent of our atmosphere; for if the density be throughout as the compressing force, then must a stratum of given thickness at every height be compressed by a superincumbent atmosphere, bearing a constant ratio to its own weight, whatever be its distance from the earth. But if air consist of any ultimate particles no longer divisible, then must expansion of the medium composed of them cease at that distance where the force of gravity downwards upon a single particle is equal to the resistance arising from the repulsive force of the medium.

Mr. Faraday observes, that every expansion is productive of cold, and every new degree of cold must diminish the elastic force of a given volume of atmosphere, gravity continuing to act with nearly the same energy, while the elastic force of the air is continually diminished. These two forces will at length become equivalent, and will counterbalance one another, which is all that is necessary to imposing a limit to the extent of the atmosphere. Mr. Brayley canvassed at some length the views regarding this subject advanced by Wollaston, Ivory, Faraday, Gay-Lussac, Thenard, and others; and taking the mean of their several calculations, he estimated the height of the atmosphere at about forty-five miles. Paisson entertained a notion that the upper strata of the atmosphere were rendered denser through the operation of cold; and this philosopher went so far as to suppose that the uppermost stratum might even be liquid. Mr. Brayley has adopted a modification of this gentleman's theory, and illustrated on this occasion his views by a very satisfactory diagram. The atmosphere is represented as divided into a series of horizontal strata, and these strata as gradually diminishing in density, in obedience to the diminished force of gravitation, up to a certain point; but that afterwards the diminishing temperature, or the increasing cold, produces condensation. Mr. Brayley contended that this result must take place, from the balance of the forces of gravitation and temperature; and he illustrated his meaning by an experiment with Dr. Wollaston's beautiful *cryophorus*. The condensation of vapour may be effected not only by decrease of temperature, but by increase of pressure. In Dr. Wollaston's *cryophorus*, the force of the vapour is so much reduced by the cold applied to one extremity of the instrument, as speedily to produce congelation at the other, by the rapidity of the consequent evaporation. This process, says Mr. Brayley, is a representation of what is going on in the atmosphere. In the *cryophorus* ice is produced in one bulb, by the rapid evaporation excited by the application of cold at the other. Here we have vapour formed from fluid, first expanding, and then contracting into the fluid and even solid state. There must be a point in the course of the transition of this vapour at which it reaches its highest expansibility, and after which it gradually contracts. Such a point also exists in the atmospheric coverlet of the globe. Mr. Brayley entered into extensive astronomical inquiries to prove the truth of this proposition, and particularly referred to the observations of Sir John Herschel on Halley's comet. The telescopic appearance of this body was represented by drawings, in which the nucleus is shewn surrounded by a luminous halo; immediately

embracing this is an opaque space, which is again involved by a luminous ring. This appearance was explained by Mr. Brayley according to his theory. He supposed—1. that the immediate luminous part is due to the refraction of the sun's light by the atmosphere; 2. that the opacity is due to the great attenuation of the atmosphere which succeeds, and deprives it of its refractive power; and 3. that the subsequent luminosity is reproduced by the condensation of the atmosphere, through the influence of the cold, to such a degree that its refraction is restored.

Mr. Brayley finally furnished the meeting with ingenious explanations, tending to reconcile his views with the numerous astronomical and meteorological facts which have been established by induction.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

April 6, 1839.

Dr. Babington, F.R.S. in the Chair.

Cases of Gangrene; with Remarks.

Mr. France read two cases of gangrene.

Case I.—John Donovan, æt. 24, was admitted June 2d, 1837, into Luke's ward, under the care of Mr. Key. He was a man of middle height, rather slight make, dark hair and eyes, of florid complexion, and was, when admitted, in a somewhat depressed condition; his general appearance was not very cachectic; he was very deaf, having five years previously been attacked with inflammation in both ears, which had resulted in permanent detriment to their functions, notwithstanding the use of active measures in the treatment; his trade was that of a combmaker; lately he had been but scantily fed; his feet had been ill-defended from wet, and cramped in tight shoes. On admission, the pulse was frequent and feeble; respiration natural; skin cool and perspirable; appetite good; some thirst and restlessness were present. The affection of his feet was accompanied by a little pain; there was no tumefaction nor heat about the ankles or toes; the latter, on the contrary, were below the natural temperature; they were of a dark leaden hue, with vesications here and there, especially on the left great toe; some red lines were visible, ramifying from the ankle to the great toe of the right foot.

Ordered—Infusion of Serpentary, with Sulphuric Æther, thrice a day.

June 3d.—Pulse 104, with more power; tongue dry in the centre, and at the tip; thirst and restlessness continue; he has been slightly delirious in the night.

Mist. Salin. c. Sp. Æther. Nitrici ter die.

5th.—Face flushed; skin hot and dry; tongue brown and dry; thirst remains; pulse 112, jerking; bowels open.

Cataplasma lini et perstet.

6th.—Sleep has been disturbed by pain in the toes; pulse 116; tongue moister; less thirst; the slough of left great toe is separating.

14th.—Pulse 112, feeble; respiration normal. There is a line of separation exhibited on most of the toes; pain on exposure still very great. The tincture of benzoin was now used as a local application.

It was not, however, till October that cicatrization was complete after the separation of the extreme phalanges. At this time his general health was much improved, and he was gaining flesh; and on the 24th of October he was discharged from the hospital, his feet being mutilated by the loss of the distal phalanges of most of his toes.

Case II.—Wm. Reynolds, æt. 33, bearing the marks of a stout and muscular frame, though now somewhat anemiated by confinement and sickness, was a policeman in the winter of 1837-8, and was compelled, in the prosecution of his duty, to be frequently and for many consecutive hours exposed to the inclemency of that very severe season, while the frost was intense and protracted, and the snow often of several inches depth. He was called upon during this period to render his assistance at a fire, and in doing which he found himself in the utmost peril; and to the excessive terror hereby occasioned, he attributes the supervention of epileptic fits, with which he was about this time attacked. From November in last to February in the present year, he has been confined by this cause, for the paroxysms seem to have been very violent, and nearly incessant, and to have very considerably impaired his intellect. He was not reinstated in his mental faculties until February, having in the meantime been removed into the country; and in a week or two afterwards the fits likewise finally ceased. It was now noticed that his toes were becoming black and gangrenous. This affection extended, notwithstanding every endeavour to arrest its progress, until the left foot was removed at the central joint of the tarsus, and the right leg was deadened about one-third up. In this state he was brought to Guy's Hospital, on the 6th March, 1839, and immediately admitted. His general condition was as follows:—The heart's action irregular; the pulse quick, small, and feeble; tongue morbidly injected and clean; skin cool;

bowels confined; his manner denoted considerable cerebral excitement; he was peculiarly hurried and agitated, very loquacious, and sometimes incoherent; he complained of much indistinctness of vision, more particularly in the morning and earlier part of the day. On examination, no evidence was found of organic disease of the heart or arteries. The gangrene had not been ushered in by pain, as would have been the case were it the consequence of arteritis or ossification of the vessels; he had not, to his knowledge, partaken of unsound bread or other unwholesome food.

The treatment adopted has produced the best effects, for under it the patient has gained vigour and strength, and his constitution has been enabled to resist the further encroachments of the disease. He was ordered on the day of admission Morphiæ Muriatis, gr. ss. o. n.; 6 oz. of wine, a pint of porter, and meat diet daily. To the gangrenous parts were applied linseed and poppy poultices, succeeded on March 11, by a lime-water and opium application. On the 15th March, quinine was added.

The general health under this management has been materially promoted, and the separation of the mortified portions been accomplished. The last bonds between the living and dead—that is to say, the bones of the left leg—were divided by the saw on the 20th March. The appearance of the stump was healthy, presenting that raw and indolently granulating aspect which is usually seen after the casting-off of a frost-bitten extremity. At the present date, April 6, cicatrization is progressing most favourably.

In making a few comments on these cases, Mr. France took occasion briefly to review the grounds upon which some of the theories to account for gangrene are advocated, and expressed his own opinion that, in the majority of instances, it was to be ascribed essentially to arrest of the circulation in, and deficient supply of blood to, the affected parts. This opinion was supported by several ingenious illustrations and arguments; and the discussion in consequence naturally took that turn. Dr. Borland, Mr. Cock, Dr. Hughes, Mr. Iliff, Dr. Ashwell, and Mr. Greenwood, were the principal speakers; and although many valuable remarks fell from these gentlemen, it did not appear to us that any decisive conclusion was arrived at upon the interesting point of pathology above alluded to.

When the time for adjournment had fully passed, the usual vote of thanks was offered to Mr. France, for his obliging communication, and the meeting adjourned.

At next meeting, April 20, Mr. Bransby Cooper in the Chair, the subject of Syphilitic Iritis will be brought forward by Mr. Menzies.

BOOKS RECEIVED FOR REVIEW.

An Address to the Inhabitants of Bath and its Vicinity respecting the efficacy of Vaccination, and the Causes which prevent the Extinction of Small-Pox in this Country. By Conway Edwards, M.R.C.S. Surgeon, Batheaston; Author of "A Treatise on the Bladud Spa Water."

Medical Portrait Gallery. To be continued monthly. By Thomas Pettigrew, F.R.S. &c. &c. No. 13, containing Boerhaave and Mr. Travers.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, March 28.

Jeremiah Gledhill, Eddercliffe, Yorkshire.—William Forsyth Henderson, London.—Robert Hills, Maidstone.—George Stevenson, Manchester.—John Taylor, Bayswater.

Thursday, April 4.

Isaac Ball, Westminster.—William Haslewood, Darlington, Durham.—George Panton, Wareham, Dorset.—Edward Rogers Perks, Coombe, near Bath.—Josiah Winterbottom, Bolton, Lancashire.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *April* 9, 1839.

Abscess	1	Inflammation	14
Age and Debility	42	Bowels & Stomach	6
Apoplexy	3	Brain	2
Asthma	3	Lungs and Pleura	8
Cancer	2	Insanity	1
Consumption	33	Liver, diseased	2
Convulsions	27	Measles	4
Dentition	3	Paralysis	1
Dropsy	5	Small-pox	3
Dropsy in the Brain	7	Thrush	1
Dropsy in the Chest	1	Tumor	1
Fever	12	Unknown Causes	80
Fever, Scarlet	7		
Fever, Typhus	1	Casualties	3
Hooping Cough	11		

Increase of Burials, as compared with the preceding week . . . 140

METEOROLOGICAL JOURNAL.

April.	Thermometer.	Barometer.
Thursday 4	from 30 to 37	29·87 to 29·91
Friday 5	32 38	29·73 29·83
Saturday 6	30 41	30·03 30·22
Sunday 7	24 47	30·26 30·28
Monday 8	28 39	30·24 30 22
Tuesday 9	28 43	30·23 30·29
Wednesday 10	35 49	30 32 30·35

Wind, N.E.

Except the 6th, 7th, and 10th, generally cloudy; snow on the 4th; snow in the morning and rain in the afternoon and evening of the 5th; and snow on the 8th and following day.

Rain fallen, ·4 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, APRIL 20, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Diuresis saccharina—continued.

Thirst to an insatiable degree is a prevailing symptom in diabetes. The draughts upon the blood for water voided as urine are excessive; for instance, twenty-four pints was the average daily discharge in the case before alluded to: now—

$$24 \div 8 = 3 \text{ gallons},$$

the quantity of water daily evacuated from the system by the kidneys. Now this water must be furnished from the serum of the blood, and the consequence must be to deprive the blood of its normal proportion of water. Wherever this takes place, nature prompts the animal to repair the loss by exciting thirst, probably one of the most distressing and intolerable of sensations, and to be allayed only by the ingestion of fluids: of these, pure water is the most effectual agent for this purpose, and therefore we find that those who are tormented by thirst in any of its modifications, betake themselves to this wholesome beverage, as affording the most effectual and satisfactory relief.

In the enumeration of the symptoms, a harsh, dry, and unperspirable state of skin was represented as an associate or concomitant of diabetes, and, indeed, in all forms and varieties of the complaint, prevails to an extent more or less. This may be accounted for upon two principles. If the insensible transpiration be suppressed, a harsh and rough state of skin is almost invariably the result. When so much watery fluid is passed off by the kidneys, it is evident, in a corresponding ratio, cutaneous transpiration will be suppressed; and hence the harsh, dry, and rough state of skin. It has still further been observed, that in some cases upwards of thirty pints, or three gallons and three quarts of urine, have been voided daily for weeks, or even months, in succession. In such cases the quantity of urine, and solid matter contained in it, have been said to exceed by more than double the whole of the ingesta; and physiologists have puzzled themselves not a little to explain this difficulty, and reconcile the phenomena. Many, however, doubt the facts; but still they are too well attested, and too consistent with what may be observed daily, to justify such a summary mode of dissent, more especially as the difficulties can be explained upon known and admitted physiological phenomena.

The skin, as well as being an organ of transpiration, is also one of absorption; but in all probability both functions are not going on at one and the same moment of time; indeed, they do not seem to be actions simultaneously compatible in the same organ. We also know that if insensible perspiration be checked by artificial means, a flow of urine is an immediate consequence. Thus we account for the flow of urine if the cutaneous functions be checked by exposure to cold,—as, for instance, happens to those who, having prepared for a plunge into the sea, the mere exposure of the skin by stripping off the clothing is attended with an immediate call to evacuate the bladder. But the person who has responded to the call, on the immersion of the body into the water, after a few minutes—sometimes

even seconds—feels himself called upon again to evacuate the bladder. Now whence can this second call arise; it must undoubtedly be owing to the skin absorbing a large proportion of the surrounding medium, and inundating with it the blood, when the kidneys in turn set to work to relieve it from the superfluous burthen.

It may perhaps be objected that, as the suppression of perspiration in the first instance, by exposure to the cool atmosphere, excited to urinary evacuation, that the succeeding uresis depended upon a similar cause to the first—namely, the operation of a still cooler medium upon the functions of the skin; that is, cutaneous perspiration being still suppressed, what ought to pass off by this organ now passes off by the kidney. But even allowing the due weight to this objection, when we consider the rapidity and the frequency with which the bladder is evacuated under such circumstances, and also the very much larger quantity voided in a given time, as compared with what would be voided under ordinary circumstances in an equal time, we must admit that the difference cannot be explained without calling to our aid the principle of cutaneous absorption, and admitting the inundation of the blood with watery fluid through this medium. But in still further confirmation of this principle, it may be urged that the same phenomena, to an equal or even still greater extent, takes place if the person, instead of cold water, immerse himself in a warm bath. These are facts which will be readily admitted by all who have any personal experience upon these subjects. But lastly, and still more effectually, perhaps, it may be urged, that the immersion of a portion only of the surface—the feet and legs, for instance, while the functions of the rest of the cuticular surface remain as under ordinary circumstances—is attended with evacuation of the bladder to an extent irreconcileable except upon the principle of cutaneous absorption, as above depicted.

Now admitting these doctrines, we can readily explain the excess of the urine over the ingesta. The atmosphere is at all times more or less loaded with watery vapour; and consequently, when the system requires it, we have no reason to suppose that the skin will be found less ready, or less active, than the other tissues, in attending to and supplying the wants of the system. Consequently we can readily explain the excess of water over the fluids ingested, evacuated from the bladder by the absorption of watery vapour from the atmosphere by the skin. Part also must be attributed to the solution and absorption of the animal tissues themselves, and their conveyance into the blood, and ultimate discharge from the system through the kidneys. This, too, will serve to explain the extraordinary emaciation which sometimes is observed in diabetes. The tissues are absorbed in preternal quantity, and evacuated with the urine, while nature otherwise disposes of the alimentary matters which should supply the waste, by the suppression or interruption of the assimilating functions, and directing the assimilative matters to the kidneys, whence they are ejected from the body. Nor is this to be objected as a fault, because the digestive functions appear to be in error; and consequently a healthy assimilative matter is not prepared; and the laws which govern the animal economy are such as will mostly refuse to submit the tissues to the consequences, and hence a morbid and perhaps most pernicious commixture with the blood is refused a habitation in the system, and is therefore directed to the kidneys, to be by them immediately evacuated from the system.

It is rather a singular coincidence, too, that persons liable to urinary diseases are also very frequently subject to cutaneous affections. This was the case with respect to Mr. P. He had previously suffered most severely and extensively from cutaneous eruptions of an impetiginous character, and for which he could obtain no relief, till, on application to Mr. Plumb, he was completely cured by a lotion of hydrocyanic acid in a large proportion of water. The female whose case also I have mentioned as one of saccharine diabetes, was often troubled with psoriasis, and, in many of the cases of excess of urea, cutaneous affections of various descriptions either coexist or have prevailed at some earlier period.

It is matter of curious speculation how long such diseases may have prevailed, or what length of time they may have lain in this, as it were, dormant or at least undetected state. That Mr. P. had suffered, at a much earlier period of life, from disease of the urinary system, came to my knowledge on making more strict inquiries. He gave me to understand, that about eighteen or twenty years before the time of my seeing him, he suffered from very great distress in the urinary system, and an incapability of passing water. The disease under which he laboured was supposed to be stone in the bladder, and his distress and sufferings greatly increasing, it was determined he should proceed to London to be operated upon. When on his journey, at Ingatestone, where the coach stopped for breakfast, he happened to meet with a friend, formerly a surgeon in the navy; and, on his explaining to him the object of his journey,

this gentleman made several inquiries; upon which he declared his conviction that there was no calculus, and that if he would but follow his advice, he would soon be perfectly well. This was consented to, and he was recommended an infusion of some *vegetable;* the name or nature of which, however, I could never learn nor distictly trace, as he could not recollect it. He complied, however, with the directions of his friend, returned home, adopted the treatment recommended to him, and in less than three weeks had completely recovered, or at least was perfectly relieved from his former misery.

This history is in many respects extremely interesting in a pathological point of view. First, how are we to account for the phenomena? Are we to presume that the sufferings of this patient were chimerical—the mere delirium of a temporary nervous excitement; or was there a substantial physical cause relieved or abated by the means adopted? My own opinion inclines to the latter view. When we connect the existing condition of the urine, the previous sufferings from cutaneous affections, the tendency to gout, we can be at no loss to trace the deeply-rooted urinary affection; and of course we can readily admit the urinary distress so much resembling a calculous affection, as a mere admonitory hint of what probably was about to occur, and which subsequently did accutally occur. Secondly, if the table be referred to, it will be seen that, among other characters, a fatty state of the urine is noted; and this occurred frequently, and was noticed by Dr. Prout in one of his communications to me. Now this peculiar fatty matter depends upon tumors within the bladder, of a steatomatous character, by which it is thrown off, and mingled with the urine. I have seen this in several other instances, and have twice had an opportunity of confirming these views by subsequent anatomical examination. Now it is probable that the calculous symptoms in this instance depended upon the morbid condition of the bladder antecedent to the development of the tumor above noticed. Symptoms very closely resembling those of stone prevail in certain morbid conditions of the mucous lining, and, indeed, general structure of the bladder. Thus, I remember the case of a coachmaker, at Witham, in Essex, concerning whom I was consulted; the symptoms closely resembled those of stone in the bladder. He was sounded, but no stone could be found. As I shall have to detail the particulars of this case more fully hereafter, I shall merely observe, that a year or year and half after I was consulted he died; and, on examining the body, a sort of fungous tumor, with a pouch from fold of the mucous membrane, was found in the bladder, which I believe is now among the preparations in the museum of the Royal College of Physicians.

It has been already stated, that in all probability a strong predisposition to diabetes exists in many cases. Predisposition to disease may be considered as of two kinds—*hereditary* and *acquired*. Hereditary is transmitted to posterity from their ancestors. Persons who suffer from hereditary diseases must be supposed to have the peculiar predisposition infused from the moment of conception, otherwise it must be ranged under the head of acquired or accidental Acquired predisposition arises from the operation of accidental or otherwise adventitious agencies, and which, by sufficient care and foresight, might have been avoided. Hence there is a material difference between the two; as the former is absolutely inevitable, whereas the latter is not necessarily so. But in what consists predisposition? It is difficult to conceive any state intermediate between health and disease. There are many instances of individuals predisposed to disease, who enjoy a seemingly perfect immunity for a long period: for example, we may refer to gout, to phthisis, and even to many forms of urinary disease. In many cases the predisposition may be rendered a dead letter; that is, kept dormant, and even finally eradicated; so that persons born with a strong predisposition to peculiar diseases may pass through life without any development; or the anatomical condition even which constitutes the predisposition may, in the milder cases, be even wholly eradicated. In acquired predisposition, we find the causes in those irregularities and abuses, which have been depicted under the head causes. It may, perhaps, here be inquired whether any combination of exciting causes could give rise to diabetes, without previous or co-existing predisposition. There can be little doubt, however, that there are causes, the application, at least the continued application, of which will fully establish this disease under some of its modifications; and yet it is probable that these causes operate in the first instance by inducing what we term predisposition, and subsequently the actual disease.

Immediate cause.—It is usual with medical writers to comprehend under the causes the *proximate;* and perhaps no part of the history of diseases has given rise to more controversy than the nature of this cause. It has been defined as follows:—"Causa *proxima* est illa quæ presens morbum facit,

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* Gregory's Conspect. Med. Theoretic. cap. I, xxxviii.

sublata tollit, mutata mutat *." In fact, the proximate cause of a disease may be regarded as the *real essence* of the disease—that is, that peculiar something which constitutes it what it is, and nothing else. This it is evident we know not, nor probably are our faculties such as that we could comprehend it. But it has been the practice to consider the word proximate cause as the real essence, and yet to dispute of it as the mere nominal, which is merely the work of the human understanding, and quite distinct. It therefore appears to me advisable to proscribe this term altogether, and to introduce in its place a term less likely to excite chimerical ideas and useless controversy.

The great error in the economy is the existence of sugar in the urine. Now how comes it that sugar—a principle containing no nitrogen whatever—should not only appear in the urine, but absolutely supply the deficiency of urea—a principle containing a very large proportion of nitrogen? It is remarkable, however, that although the existence of sugar in the urine in small proportion is not an unusual occurrence in certain cases of dyspepsia, gout, &c.* yet I believe it mostly happens that in such cases, during the absence of sugar, its alternating principle, urea, is always found in excess. Therefore it would appear that there is some specific connexion between these two principles. Dr. Prout attributes it to a suspension of the essential merorganizing changes, while the rereducing power of the stomach goes on even more rapidly than in health; consequently the food is more quickly dissolved and absorbed. But still the merorganizing processes either not taking place at all, or but imperfectly, the products are unfit for the animal economy, and therefore are ejected in self-defence.

Upon these principles it is evident that the digestive organs are the principal seat of error, in consequence of which the assimilative functions do not go on. What, then, is the result?—a morbid condition of the blood. It has been lately asserted that sugar has been discovered in the blood of diabetic patients. It is well known that physiologists and chemists, till lately, had searched, and searched in vain, for sugar in the blood. I have also searched for it in the blood of diabetic patients, but, I must confess, without success. Indeed, it was while engaged in researches of this sort, that it occurred to me to modify the sulphuric acid test with a view to render it more available as a trial test; but although indirect evidences occasionally occur, from which the presence of sugar might be inferred, yet I do not consider it either legitimate or safe to assent to the presence of sugar either in the blood or the urine without the absolute evolution of the principle itself, and identified by all its characters, sensible, mechanical, and chemical.

Allowing that sugar has been found in the blood of diabetic patients, still we shall be at a loss to account for its presence in this fluid. It is true that sugar forms a part of the diet of man; and it might be supposed that this principle, undecomposed, entered the blood, and passing through the kidneys, appeared in the urine. But a total abstinence from sugar does not in the slightest degree reduce that of the urine*. In a case of diabetes, in which the average specific gravity of the urine was 1046, its taste distinctly saccharine, and the quantity averaging about twelve pints in the twenty-four hours, I at various times interdicted altogether the use of sugar, but yet I did not find either the specific gravity reduced or the sweet taste diminished. Chyle naturally has a sweetish taste, and therefore probably contains sugar. Mr. Brande, during some physiological researches, in which he assisted Sir B. Brodie, had an opportunity of obtaining it in large quantities from both carnivorous and granivorous animals. He states chyle to be an opaque white fluid, of a sweetish saline taste, and of a specific gravity inferior to that of blood: it exhibited a slight alkaline reagency with infusion of violets. On removal from the thoracic duct, it gelatinized spontaneously, and then gradually separated into a finer yellowish white coagulum, and a transparent colourless serum. The coagulum possessed properties resembling the caseous portion of milk, and hence Mr. Brande regards it as a variety of albumen. The serum, when heated, deposited a few flakes of albumen, and when evaporated to dryness afforded a small portion of a substance analogous to the sugar of milk†. Tiedemann and Gmelin found no traces of the substances used as food in an unaltered state in the chyle; they merely found that when the animal had taken butter, the chyle contained an abundance of fatty matter; and in the chyle of one dog which had taken *starch* they detected *sugar*.

Dr. Prout made a comparative analysis of the chyle of two dogs; one of which had been fed on vegetable, and the other on animal food, and found the constituents as follow:—

* Gulstonian Lect. by Prout.—Med. Gaz.

* It may also be observed, that diabetic sugar does not so much resemble cane sugar—the article of diet—but is much more like to that of grapes.

† Manual of Chemistry, p. 196.

	Vegetable Food.	Animal Food.
Water	93·6	89·2
Fibrin	0·6	0·8
Incipient albumen	4·6	4·7
Albumen, with a little red colouring matter	0·4	4·6
Sugar of milk	a trace	0·0
Oily matter	a trace	a trace.
Saline matter	0·8	0·7
	100·0	100·0

CLINICAL OBSERVATIONS ON FEVER.

By Chas. Lendrick, M.D. T.C.D.
Queen's Professor of the Practice of Medicine in the School of Physic in Ireland, &c.

[Continued from p. 12.]

Natural tendency to recovery in fever.—Extent to which the bowels ought to be acted upon.—Cooling applications to the head.—Use of James's powder and mercury.—Abstraction of blood.—Leeching the temples.—Opening the temporal artery.—Cold douche.—Blisters.—Rules for treating inflammation combined with typhus.—On the use of stimulants.—Various kinds of wine and malt liquors.

The tendency of typhus fever, in the great proportion of cases, is to recovery. The bodily debility—the torpor of the faculties—the stupid, vacant, and yet anxious appearance of the countenance—the furred and coated state of the tongue—and the quickness of the pulse, are observed to increase progressively up to a certain period, when these and the other symptoms undergo an amendment; the time of its occurrence varying from the 7th to the 14th day, in the average of instances: yet it is often much later that any thing like a critical change is to be observed, and, in general, the later the period the less marked and obvious is this change. Whatever may be its amount, the recovery of the patient may usually be dated from it. Sometimes, after an amendment, the disease becomes stationary, and then proceeds to increase, as before the crisis took place. This false crisis is among the worst symptoms of typhus fever, and the instances of recovery after such an occurrence are rare.

It may be laid down almost as an aphorism, that extraordinary occurrences in typhus are bad ones. The very worst symptom in the disease is a non-agreement of symptoms. For instance, where with those denoting a severe form of fever, we have a single symptom usually in such cases characterized by morbid alterations, but in the instance before us existing nearly as in the state of health, the prognosis may almost invariably be bad: such, for instance, are complete rationality, or an appetite for solid food, or a regular pulse, or a clean tongue; while the whole course of the disease denotes a case of intense typhus fever. Almost complete inanition, a corpse-like state, with fixed eyes, a hanging jaw, and imperceptible pulse and respiration, were less unfavourable than this, as indicative of the probable result. It is, however, to be borne in mind, that an epidemic often introduces peculiar characters, even in comparatively trivial cases. Thus, of late years, a remarkably slow pulse, sometimes not exceeding 40 in a minute, has been an attendant symptom in many mild cases of fever; and yet one which, some time since, would have been justly looked on as the precursor of a fatal termination. The medical practitioner cannot be too little the slave of authority, or too much on the out-look for those changes in disease by which its characters are varied from time to time.

In the great proportion of cases of fever, the physician, bearing in mind its natural tendency to increase up to a certain period and then to decline, will best consult the patient's welfare by almost restricting his treatment to early confinement to bed (this is the *sine quâ non*), the use of an apartment large and well ventilated, but neither cold nor containing currents of air, and the administration of tepid diluting drinks, whey, &c., or even such as are cold (provided they are desired by the patient, and the skin is not disposed to perspiration). To this treatment ought to be added strict cleanliness, by frequent change of linen and sponging the skin with tepid or cold vinegar and water, according as it is moist or parched; carefully avoiding, however, permanent exposure to damp or the risk of catching cold.

There is often much apprehension in the mind of the medical attendant as to the regularity of the bowels. When, however, we recollect that persons in health, and using stimulating food, preserve that health with a single evacuation from the bowels daily, or even less, why should we consider this or more than this necessary, in a disease characterized by debility and collapse, and in which the ordinary means of nutrition are withdrawn? Yet, strange to say, two or three loose evacua-

tions in the day are often considered, by both doctor and nurse, as not only salutary but indispensable for a safe course of typhus fever. The late Doctor Boyton often remarked, in his clinical lectures at the School of Physic, that he never knew a patient to die with constipated bowels, but numbers of, or at least with, abundant and loose discharges. The general correctness of this observation must be agreed to by every practitioner of experience.

Where, either at the commencement or in the progress of fever, the bowels have been confined for more than a day, with distension or uneasiness of the abdomen, or an increase of febrile symptoms, an evacuation ought of course to be obtained. One of the best medicines for this purpose is the oily draught, or from one to two spoonfuls of good castor-oil, floating in a small cup of coffee. If this should be offensive to the stomach, a rhubarb draught* may be exhibited; preceded, where there is reason to suppose an accumulation in the bowels, by Lady Webster's pills (as described in Paris's Pharmacologia), or some other aloetic preparation. By such means the contents of the bowels may be removed, without their being irritated by the production of an unusual secretion. The effects of aloes on the rectum are not injurious, when it is exhibited for so short a time, at least to such a degree as to constitute an objection to its use. The administration of enemata, whether in conjunction with the laxatives just mentioned or independently, possesses the great advantage of freeing the bowels for the time, and of doing no more—that is, of evacuating their existing contents, without causing future diarrhœa.

When the bowels have been once emptied, a single evacuation daily, or that average (such as two stools on each alternate day), will be found quite sufficient; and I should be more apprehensive of a considerable variation above than under this standard. It is not improbable that, as some authors have remarked, diarrhœa in the course of fever may be sometimes attributable to neglecting the due evacuation of the bowels at its commencement: yet, for one such case, ten occur where inseparable mischief is done by early purging.

The moderate evacuation of the bowels at a rate not exceeding one discharge daily, with attention to cleanliness, external fomentation, and diluting drinks, constitute the most successful treatment of fever in the great majority of cases; except, indeed, the occasional use of the effervescing mixture of citrate of ammonia, or of the citrate in the still and neutralized form, there is generally little else to be done, if the head be not much engaged.

Affections of the brain are, however, such dangerous attendants on fever, that the physician ought always to be on the watch for their occurrence. It is no bad rule, in almost every case of typhus, to shave the head. The mere removal of the hair relieves cerebral symptoms; and if headache be present, a cold lotion ought to be applied. Dr. Osborne prefers, for this purpose, cotton wadding to the cloths generally used; and by this, the evaporation of the fluid and the cooling process are much more readily effected. Cold is sometimes overdone; and when the heat of the scalp is found to have diminished to the usual standard, the lotion should be discontinued. A sensation of deep aching pain in the head is a frequent consequence of lotions being too cold or too long continued. In almost every case where these cold lotions are used, warm fomentations should be applied to the feet, especially if the patient be restless. This application, simple as it is, is a powerful sedative.

I am in the habit of directing the alterative powder used in the Cork-Street Fever Hospital, formed of one grain of calomel and two or three of James's powder. By James's powder I mean the empirical preparation; the imitations in the Pharmacopœia being comparatively worthless. The alterative powder is given every night while head symptoms are threatened, up to the period of convalescence. It forms almost the only exception in my treatment to the principle of waiting for symptoms instead of anticipating them. I think it is unquestionably beneficial in its action on the brain. It seldom acts on the bowels, or, if it should, this effect can easily be restrained by the addition of an astringent.

Where, however, there is severe pain in the head, with increased determination of blood — where delirium supervenes, or coma is advancing—a more active use of mercury and antimony becomes necessary, and forms, in fact, our most powerful means of saving the patient. The above medicine must, according to the urgency of circumstances, be repeated three or four times in the day; or it may be requisite to give two grains of calomel* and three of James's powder every third hour, as in iritis. With such doses, the action of mercury on the bowels must of course be restrained; and as opium is, from its influence on the brain, generally con-

* ℞ Infusi Rhei cum duplo Rheo, unciam; Bicarb. Ammoniæ, grana decem; Sulph. Magnesiæ, drachm. ss—i. Solve, et fiat haustus. Capiat cum semiunciâ succi limonis in actu effervescentiæ et repetatur horâ tertia quâque ad effectum.

* Dr. Law's mode of affecting the mouth by minute doses of calomel, such as a quarter of a grain every hour, is comparatively free from the objection of irritating the bowels.

tra-indicated, the object may be effected by administering the alterative powder in the form of bolus, with the electuary of catechu (prepared without opium) and kino.

In cerebral cases the constitution is often remarkably repugnant to the influence of mercury and antimony. Two more powerful agents in such cases we do not, however, possess; and if we succeed in touching the mouth with the former, and producing a slight nausea with the latter, the patient is generally saved. Keeping these objects in view, the doses or their repetition must be regulated by the discretion of the practitioner. In cases of incipient pneumonia, where, with a crepitus near the base of the lung, we have also loss of respiration at the base, and some of the usual symptoms of this disease—where, in short, the existence of pneumonia is unequivocal,—this treatment ought to form our principal resource.

Mercury and antimony, however, are to be reserved for the above-mentioned cases, where their administration is necessary, or rather indispensable. They are both liable to the serious objection of producing irritation in the stomach and intestines. I never concurred in the hypothesis of gastro-enteritis being the essence of typhus fever; but undoubtedly it is such a frequent attendant, and so dangerous and unmanageable a one, that we cannot be too careful in avoiding any mode of treatment, not otherwise indispensable, which might favour its production; more especially if any of the symptoms which usually announce its invasion, such as nausea, diarrhœa, pain on pressing the epigastrium, or redness of the tongue, should have made their appearance*. For this reason, where antimonials are necessary, I generally prefer James's powder to the tartarized antimony, which produces a more irritating effect on the stomach and bowels.

General blood-letting is rarely practised in Dublin in typhus fever unconnected with local inflammation, the erroneous pathological notions which led to its adoption having long since disappeared here. In cases of undue determination to the head, local bleeding is the mode we usually have recourse to. The medical attendant ought to bear in mind, however, that a florid hue of the countenance, throbbing of the vessels, and some difficulty of respiration, are often merely symptoms of that general excitement which precedes a critical change, or at least an amendment in fever; and that depletion then is more likely to be injurious than beneficial. This remark was made long since by our fever hospital physicians.

Where pain in the head exists, attended by determination of blood, there can rarely be any injurious effect from the application of a few leeches. On the contrary, the patient will generally find the symptoms relieved and restlessness diminished; and it may, in my opinion, be laid down as a rule in the treatment of fever and most other diseases, that relief from suffering of any kind is always desirable as a means of cure. With this view, where the patient suffers from want of sleep, amendment is accelerated by administering at night a pill of three grains of good extract of hyoscyamus. The use of a larger dose, or of any preparation of opium, is, under such circumstances, a more questionable matter, and will be considered hereafter.

In order to avoid unnecessary annoyance, it will generally be the better way to apply the leeches (six or eight in number) to one temple, to cause the patient to lie on the opposite side, and to place a few folds of clean linen over the leech-bites. When the cloth is saturated with blood it may be removed, and the temples lightly bound up: thus the annoyance of steeping is avoided. This is Dr. Osborne's practice. A patient should never be allowed to lie on a bleeding surface. Under particular circumstances an unseen bleeding may constitute a dangerous hæmorrhage.

The loss of a few ounces of blood thus gradually oozing from the temples much relieves cephalic symptoms without exhausting the general strength. On the principle, therefore, of not doing more in fever than is necessary, this mode of abstracting blood ought always to precede more energetic measures of the kind. If, however, the symptoms should continue unrelieved, or delerium supervene, a more active abstraction of blood is requisite. No mode is more powerful, or, as far as an efficient removal of blood without constitutional exhaustion is concerned, more advantageous, than temporal arteriotomy. Unfortunately, however, the other consequences are sometimes such as to render its adoption in private practice, unless in a case of great urgency, far from desirable. The object of abstracting arterial blood, and in almost any quantity required, can be attained by cupping the temples. For this purpose good and peculiar apparatus, with dexterity in its use, are indispensable. Adequate directions for the performance of the operation are given by Mr. Hills, in his little treatise on Cupping. The practice of cupping the temple was introduced into our clinical hospital on the recommendation of Dr. Swan, during

* Where these symptoms are not present, the combination of tartar emetic and opium, administered according to the directions of Dr. Graves, affords a useful remedy in the sthenic forms of delirium, as referred to in a subsequent part of these observations.

his pupilage, and who displayed great skill in its performance.

Should pain in the head, with determination of blood continue unabated after cupping the temple, the antimonial and mercurial measures aforementioned should be had recourse to; and in the mean time, if the cupping should have been unsuccessful, blood ought to be abstracted directly from the temporal artery, especially if the pressure of the cupping glass is irksome. The best way to avoid the bad consequences of arteriotomy is to make the incision at least an inch from the zygoma, and directly in the course of the artery—neither across nor obliquely. Secondary hæmorrhage and aneurism are thus less likely to occur, or other parts to be wounded, when a puncture is made, on the failure of the incision to open the vessel. A good lancet is the best instrument for the whole operation; and it ought to be held between two fingers and the thumb, and not merely between the forefinger and thumb, as in ordinary venesection. If the patient be not refractory, the best mode of stopping the bleeding is to cause an assistant to place his finger on the wound for some time till the disposition to bleed cease, and then to apply sticking plaster, a compress, and a triangular handkerchief as a bandage, lightly. If the patient be violent, the bleeding considerable, or professional assistance not likely to be at hand, the better way is to raise the artery on a tenaculum or needle, to cut it across, and then to apply the bandage. In every case the patient ought to lie on the opposite side, so that the wounded temple may be in view, and any disposition to hæmorrhage at once discovered. Lives have been lost from the neglect of this precaution. It would be well, indeed, that all attendants on the sick, and indeed people in general, were aware that the most serious hæmorrhage, even that from a considerable artery, may be kept in check for any required time, and till surgical assistance can be procured, by merely placing a bit of rag over the bleeding point or surface, and gently pressing or rather keeping it in contact by means of one or more fingers, another person relieving the operator if fatigued. It is only necessary that the pressure be unceasing, and of course that the part should not be uncovered even for an instant. This rule applies to all external hæmorrhage, whether from surgical operations, wounds, leech-bites, varicose veins, &c.

Where a patient is violently delirious and intolerant of restraint, I quite concur in the opinion generally acted on here, of allowing every degree of liberty compatible with safety. Cases have occurred of a patient rushing, under such circumstances, into the open air, not only without injury, but with advantage; and I should have no objection to permit him, when violently bent on accomplishing his purpose, to go out of the house in fine weather, if properly clothed and attended. It is generally admitted at the present day, that the best and safest way to remove maniacal excitement, is to permit the ebullition to take place, and thus to pass away. In yielding to the wishes of the patient by affording liberty, precautions as to safety must, of course, be adopted, and sufficient attendance provided.

In these cases of violent excitement the cold *douche*, by means of a common cullender on the head, is highly advantageous, and still more so if the patient can be persuaded to sit at the same time in a *semicupium* of warm water, and which is readily formed of a common washing-tub. After an application of this kind, and an indulgence of liberty, sleep is often procured, although absent before. Should it be otherwise, three grains of extract of hyoscyamus should be administered. If the patient continue to be restless, an eighth of a grain of acetate of morphine, with half an ounce of Mindererus's spirit, and six drachms of camphor mixture, ought to be given every four hours till sleep is obtained, and which, in such cases, is generally followed by convalescence. The practitioner should always, however, bear in mind the great susceptibility to the influence of narcotics which exists in typhus fever. In a case* lately in the clinical hospital, narcotism was produced by a dose not equivalent to more than half a grain of opium. A gentleman labouring under typhus, with maniacal excitement, whom I attended many years ago with the late Dr. Cheyne, fell asleep, and convalescence ensued, on the administration of two grains of Dover's powder. Where, however, fever is complicated with delirium tremens, a more active use of opium may be requisite; but even here we ought to feel our way with graduated doses of morphine†, progressively increasing.

It is a good general rule to abstain from the use of blisters during the presence of febrile excitement. It is, indeed, to the stage of coma, or the approach of collapse, that these applications appropriately belong. At a much earlier period, however, of typhus combined with phrenitis, we may have recourse to the tartar emetic ointment, by means of which, applied to the scalp (as the surgeon of our Foundling Hospital, Mr. Creighton, long since remarked), the specific antimonial influence, so beneficial in such cases, is introduced

* It is unnecessary to specify cases where the details are unknown to the reader.

† See note, page 103.

into the constitution, while a powerful external stimulus is established.

It would be to go over nearly a course of lectures on the practice of medicine, to describe all the forms in which local inflammation combines with typhus fever. In short, any of the phlegmasiæ of the viscera may attend on typhus, and that in two modes:—1st. Where the predisposition to such local disease is strong, or the influence of the accessory causes of fever considerable, the inflammatory symptoms are generally simultaneous with, or, indeed, rather precede, the others; and a distinction of the case from one of simple organic inflammation can only be made by observing some of the lurking symptoms of the typhoid affection, which is now masked by those of inflammation, such as the peculiar expression of countenance, petechiæ on the skin, or the (for mere inflammatory disease) unusual loading of the tongue. These distinctions are of the last importance, as, if depletion were had recourse to the full extent that inflammatory symptoms might seem to require, the patient would be irretrievably sunk. It is therefore a good rule to practise blood-letting, on account of inflammatory diseases, cautiously, when typhus is epidemic, or where the patient has been exposed to contagion, even though typhoid symptoms have not yet appeared. 2dly. Symptoms of inflammatory disease do not take place till the secondary period of typhus, or that of reaction or excitement. This reaction is, in typhus fever, often scarcely observable, or it assumes the form of mere congestion; but in some cases it is fully developed, and constitutes local inflammation. A diagnosis from mere inflammatory disease is obviously less difficult in this case than the former, on account of the previous typhoid symptoms.

The following practical rules may, I think, be advantageously adopted in the treatment of organic inflammation, combined with typhus fever:—

1st. To practise blood-letting, or other depletory measures, only to the amount indispensably necessary for the relief of the inflammatory symptoms.

2dly. To remove blood, as far as practicable, at an early period of the case, when its abstraction is most beneficial to the inflammatory and least injurious to the typhoid symptoms.

3dly. To prefer local bleeding, where sufficient for the purpose, to venesection, as producing less exhaustion of the constitutional powers.

4thly. To adopt, where admissible, those measures which are usually found to be auxiliary to blood-letting in inflammatory diseases—such as antimony, where there is no irritation of the stomach and bowels; or digitalis, where there is no tendency to coma. Thus an unnecessary loss of blood for antiphlogistic purposes may be avoided.

In the ensuing observations as to the use of wine and other stimulants in typhus fever, the cautions as to their administration apply with redoubled force where actual inflammation is combined with typhus, as we have then more serious results than the production of mere excitement to apprehend from their over-administration. These are the really difficult cases of fever to manage, and which task the utmost skill, vigilance, and caution, on the part of the practitioner, whether in the contemporary or alternate use of depletory and stimulant measures. Let him, however, recollect the golden rule, to do with respect to both what is necessary, and no more, and he will have no cause to blame himself for the result, whatever it may be. Sometimes it is requisite to remove blood by local means from the head, or to practise venesection on account of pulmonary inflammation, and also to administer wine to support the general strength the same day.

Coma is frequently the state whereby the excitement of fever changes to collapse. We accordingly have comatose symptoms present in both these stages of the disease, and its treatment partaking of that of both. Thus, while we continue the use of mercury and antimony, and even of local blood-letting from the head, it may be also necessary to apply blisters to the calves of the legs, and mustard cataplasms to the feet, to excite the dormant powers of life, while we endeavour to obtain a derivation from the cerebral circulation. This treatment is especially requisite in what are termed the congestive or apoplectic forms of typhus, when the period of collapse, which often takes place early, has arrived.

The collapse of typhus fever occurs in two modes—suddenly, and often preceded by high excitement or coma; or gradually, as it were by the powers of nature being worn out. The first is the more dangerous, not only in itself, but also as rendering the stimulating treatment, which is indispensable, more precarious. The supervention of gradual collapse may be warded off by meeting the symptoms of debility as they become progressive, by means of light nourishment—such as panada, weak chicken broth, caudle, &c. By thus administering nourishment, and a little wine, on the first accession of symptoms of increasing debility, I have often, I am certain, succeeded in materially lessening the duration of the disease, and the amount of the collapse. Such cases are, however, comparatively of easy treatment: I mean those where we have mere debility to cope with, there is little

difficulty in regulating the amount of stimulus. It is where cerebral congestion, or the dregs of previous excitement, or of inflammation itself, are coexistent with an increasing debility threatening complete collapse, that the utmost circumspection is necessary. Support of some kind is obviously indispensable, and yet, if it be at all overdone, we make matters worse than before.

Nothing proves more, in such cases, the susceptibility of the constitution to undue stimulus than the return of febrile excitement, or even a very small portion of any animal preparation or solid food being administered. The injurious consequences of these is greater, as being more permanent than the effects of wine itself. It is the general practice in the clinical hospital of the School of Physic, on the supervention of collapse suddenly, or where much excitement has preceded it, to exhibit what is termed the cardiac mixture (a combination of camphor, Hoffman's ether, and ammonia), and to resort to more active stimulus only on the failure of this to preserve the strength of the system. Should excitement be produced by the cardiac mixture, the physician learns that, *à fortiori*, stimulus by means of wine and nourishment would have proved prejudicial.

Musk is generally considered as especially applicable to the spasmodic symptoms of fever, such as subsultus tendinum, rigid contraction of the muscles, tendency to convulsive contractions, &c. I think its beneficial effects are almost equally remarkable in comatose cases. An experienced nurse once remarked to me, that "it cleared the head;" and, undoubtedly, we often observe a diminution of stupor, and a return of consciousness and of a susceptibility to external impressions, consequent on its use. Musk must, however, be of the very best quality. The administration of an inferior article (generally known from the absence of the peculiar odour in the patient's apartment) is loss of time, money, and life. I generally prefer the exhibition of musk in the form of bolus, from fifteen grains to half a drachm daily, mixed with conserve of roses and syrup—a dose of the cardiac mixture being given at the same time.

Wine, says Dr. Buchan, in his Domestic Medicine, is worth all the other cordial medicines put together; and the Doctor says truly: as also in his subsequent remark, that in order to bear out his encomium, the wine must be "sound and good." For this reason I think that wherever economy is an object, Cape Madeira is entitled to a decided preference, inasmuch as the best Cape wine is cheaper than the worst port or sherry. Therefore if price is to be considered, let Cape Madeira of the best quality be preferred, as the soundest, although perhaps not the most agreeable, wine *. In the upper ranks of life, the selection of the quality of wine is generally regulated by the taste of the patient. One wine will often agree when another does not. All may be brought to the same strength by more or less dilution with water. In general when we try wine first, or where the patient is a female or under puberty, claret, sauterne, or the light Rhenish wines (if there be no tendency to diarrhœa), are to be preferred. Persons of luxurious habits are often more benefited by Madeira than any other wine, especially if the weaker kinds have failed as a stimulus. Champagne (if genuine) is especially adapted to what are called putrid cases, with great thirst, black tongue, fœtid discharges, and livid petechiæ. Good port is an excellent average wine. It ought to be diluted with water at first.

It is, however, of more importance to determine the time for having recourse to wine, and the quantity to be used, than its quality (provided always that Dr. Buchan's conditions be complied with). In private practice, wine is given in fever and other cases as a restorative on convalescence taking place, just as it is used as a luxury during health. What, however, I have now to do with, is the *necessary* use of wine as a medicine, during the collapse of fever, or on its approach.

I know of no means of judging, *à priori*, as to the eligibility of using wine. This point, as well as that of increasing or diminishing the quantity, can be learned only from the effect—that is, by *experiment*. In a doubtful case, I have always reasoned with myself, that a wine-glassful of claret and water could scarcely do harm, even where marked excitement was present, while its effects would enable me to judge of the susceptibility of the system to its influence, and the expediency of increasing the quantity, or *vice versâ*. Generally speaking, cases with a moist skin bear wine better than those where the skin is parched and dry; and slow and

* For this observation I am indebted to the late Dr. Robert Perceval—a physician without a superior among his contemporaries or successors, whether we consider his professional and scientific attainments, or his acquaintance with elegant literature. Many years since he predicted the revolutions that have since taken place in medicine, and boldly raised his voice against the delusive theories of the day, and the equally delusive theories which were destined for a time to supersede them. He considered no subject, however apparently trivial, as undeserving the researches of his powerful mind, provided it could add even an atom to the mass of useful medical knowledge, or contribute to the welfare or comfort of his fellow-creatures. *Vivit post funera virtus.*

gradual debility at a late period, better than where this occurrence is abrupt and early. To such and all other rules there are, however, numerous exceptions.

It is obvious that a man of luxurious habits, accustomed to the use of wine, must require a much larger quantity of it to produce a given effect than a lady who perhaps did not drink a glass for his bottle. In the average of cases from four to eight ounces of port-wine is the quantity found to be most beneficial at Sir Patrick Dun's hospital. It sometimes happens, however, that in a case of collapse, amounting almost to inanition and apparent extinction of life, the vital powers are preserved, and recovery effected, by the use of a bottle or more of wine daily. Yet where such treatment has proved successful, it has always, as far as I have observed, been the result of a gradual increase of wine up to the quantity aforesaid—a feeling of the way—and not by a hap-hazard use of it, which generally fails or proves injurious.

Whether circumstances justify the use of a single glass of wine, or of one or two bottles daily, the same rules may be applied. 1st. If wine is agreeing, and the patient is improving, "let well enough alone." The quantity of wine ought on no account to be increased—nay, if it be already large, it is to be borne in mind that as the patient improves he will become more and more susceptible of its stimulus, and therefore the medical attendant ought to be rather beforehand with the symptoms of excitement, and to diminish the large quantity of wine before they appear. 2dly. If the symptoms indicate that wine is disagreeing, the quantity ought to be reduced, the quality of the stimulus changed, or it ought to be laid aside, according to the degree or duration of such disagreement. 3dly. If wine is producing no effect whatever, and the symptoms of debility are progressive, as before its administration, the quantity ought to be cautiously increased.

When wine is agreeing with a patient in fever, we observe an amendment in the symptoms, which seems to the observer as if it were the spontaneous effort of nature, and not the result of the influence of a stimulus. The patient becomes stronger, more conscious, and less restless; the pulse is slower and firmer, and the tongue cleaner; even the skin, if previously parched, becomes cooler. But there is nothing resembling the stimulating action of wine on a healthy person—no acceleration of the pulse, or flushing of the countenance. Wherever such take place, or where the favourable symptoms consequent on the use of wine just mentioned are observed to be of but temporary duration, we may rest assured that we are verging on the unfavourable influence of the remedy, and that nothing will be gained, and probably something lost, by continuing to administer it in its present quantity. If the pulse be considerably or permanently quickened, or the patient hot or restless—if there be delirium, headache, oppression, or increased quickness of breathing, or the symptoms of approaching or recurring local inflammation, the morbid influence of wine is obvious.

It sometimes happens that by varying the quality as well as the quantity of the stimulus, it is found to agree, although formerly acting injuriously. Thus white wine will succeed on the failure of red, and *vice versâ*. Malt liquor is sometimes advantageously substituted for wine, and I have seen cases with which the brisk home-made wines agreed extremely well. As a general rule, however, no stimulus is equal to good foreign wine. The cardiac mixture which preceded its use ought to be continued along with it.

The cases which bear porter or ale better than wine are those where, with great exhaustion or emaciation, there is also much excitement, or a tendency to pulmonary irritation. Malt liquor, as being more nutritive and less stimulating, is often preferable in such cases. It is also well adapted, in conjunction with wine, where there are bed sores, erysipelas, or gangrene, conjoined with fever. It is unnecessary to add, that porter or ale ought to be of the purest quality. Sydenham was a great advocate for small beer. In some cases, where great determination to the head or the co-existence of pneumonia, bronchitis, or pulmonary irritation, rendered the use of wine inadmissible as a means of withstanding the advance of of collapse, I have allowed the patient a quart or more of light table beer in the course of the day. Thirst was quenched, and the strength preserved by this treatment, till the typhoid disease underwent a favourable change, and this without any aggravation of the pulmonary or cerebral symptoms. The rules for the administration of malt liquor are similar to those for the use wine, as to the increase, continuance, or diminution. In cases of great debility it is often preferable to administer the large quantity of stimulus that the patient requires in different forms. For instance, instead of allowing a bottle of wine daily, to give half a bottle of wine and a bottle of ale.

Spirituous liquors are liable to the objections applicable to wine, without possessing its advantages—that is, they rather produce temporary excitement than permanent strength. In cases of great de-

bility, however, a spoonful of brandy may be added to the patient's caudle, panada, or arrow-root, which is often lighter thus than by the addition of wine. A more active administration of spirituous liquors is only admissible in cases where the patient has been habituated to their excessive use—where wine acts like water, and spirits like wine. Fresh barm is a great favourite with the Dublin physicians. It certainly agrees best with what are called the putrid cases. Two or three spoonfuls may be added to a pint of ale or beer. Some practitioners administer ale-wort, or infusion of malt boiled with hops, during the process of fermentation with yeast. Care is requisite in its preparation. The infusion is to be made by percolating water through the malt. Directions for this purpose are given in Mr. Donovan's treatise on Brewing, in Lardner's Cyclopædia—London, 1837, vol. i. p. 205. The directions must be strictly followed, or the requisite chemical changes will not take place. A quart of wort prepared by means of any small straining apparatus will require about two pounds of ground malt, a quarter of an ounce of hops, and a table-spoonful of barm. The water required will be nearly two quarts; the first half being added nearly, and the second altogether boiling, for the reasons stated by Mr. Donovan. A decoction of malt and hops made in this way, but in larger quantity, and without the addition of yeast, inspissated by heat to the consistence of molasses, is an excellent demulcent during irritation of the bronchæ, from whatever cause. A tea-spoonful is to be taken occasionally.

In cases of great debility, especially if connected with local gangrene, and where other nutriment fails in supporting the strength, the patient may be nourished by means of beef gravy or osmazome, given in spoonfuls from time to time. A pound of very fresh, juicy, and lean beef, will afford about a quarter of a pint. The raw meat is to be sliced, scored on the surface, sprinkled with a little salt, and put into a close vessel with two spoonfuls of water (not more) over a slow fire, for from twenty minutes to half an hour. The juice exudes under the influence of the heat, and is ready for use.

It is an aphorism in fever, that the patient is never to be given up. Cases have repeatedly occurred, where the physicians have taken their leave during what was supposed to be the death-struggle—nay, life has been supposed to be extinct, and the body put into the coffin, and yet the patients are at present alive and well. The favourable turn in the disease, often scarcely perceptible at first, is therefore always a matter of reasonable hope, even in the apparently worst cases. Every mode is to be had recourse to to prevent the extinction of the vital spark: wine—burned brandy (in such cases)—beef gravy—musk—cardiac mixtures—and counter-stimulus, by means of blisters to the calves of the legs, the upper arms, and the nape of the neck. The sores produced by the last mentioned applications often, however, prove troublesome subsequently, and require careful treatment. When we consider, indeed, the slender link which connects the patient with existence in this world, it must be obvious that the slightest variation in the performance of professional duty must often strike the balance between life and death, and that every the slightest aggravation of the danger ought to be withstood by adequate precautions. During the period of utter helplessness and unconsciousness the patient is exposed to additional peril from three causes: inattention to cleanliness—stripping and sloughing—and retention of urine. To these I shall next direct my observations.

PHYSIOLOGICAL PROBLEM.

By William Griffin, M.D. Limerick.

Does suffering necessarily imply consciousness? Are sentient beings necessarily percipient?

NO. II.

The term consciousness has been used by metaphysicians in two senses: the first an exceedingly limited one, implying merely the existence of a sensation, thought, or desire—a pure sense in fact of being or of existence; the second, or true and popular sense of the word, "a belief in the existence of the sensations and thoughts which pass through our minds, and of our own existence as the subject of them*." In the former sense it is simply another term for sensibility, and is used indifferently for it by Brown, who denies its existence as a distinct faculty. He considers consciousness merely as a general term for sensations, thoughts, or desires, and identifies it with all or any of these, inasmuch as it is, to use his own words, "impossible to feel and not to feel at the same time;" by which he means, that it is impossible to feel and not be conscious at the same time. Now this is the very point at issue; for if

* Alison's Physiology, p. 215.

there be a class of pure sentient as distinguished from thinking beings, which we shall shew is more than probable, the one can only possess a sense or feeling of existence or pure sensations, while the other experiences conjointly with these sensations a perception of them, with a belief in their own existence as the subject of both. No general term, therefore, applying to the two definitions indifferently, can be admitted in physiological reasoning without leading into continual error; so discarding the use of the word consciousness in the first sense attached to it, expressed much more simply by sensibility or feeling, we shall employ it only in that full meaning in which it is legitimately and popularly understood.

It will appear that consciousness, in the full sense in which we have defined it, of necessity implies the existence of memory and personal identity. It is difficult to understand how even an intuitive belief in our own existence, as the subject of thoughts and sensations, could exist or occur in any way to the mind, until at least a second sensation or thought was experienced, and remembered as having been experienced, by one and the same being. The mind cannot dwell, even for a moment, in thought or inference on its own existence, without including the existence of memory and individuality, since the occurrence of the thought or inference must have arisen from a previous thought or sensation remembered as having been experienced by the same being. Pure sentient beings, if such exist, may have a sense of exist ence; and this is all, I believe, the infant has in the first moments of life, or can have until it is capable of perceiving its own perceptions. Mental consciousness, as distinguished from mere sentient consciousness, sensibility, or feeling, therefore implies not only the perception of thoughts and sensations, but the reference of these to something that remembers the experience of a former thought or sensation, which believes it existed before the present moment, and that it was itself which experienced both.

The distinctions here drawn between sensation and consciousness have always been recognized by metaphysicians, though they continually confound or identify them in their application. Brown, who altogether rejects them, is, indeed, consistent in using the terms indiscriminately, yet he sometimes used the word consciousness in a more extended sense, not simply implying a mere sensation as the consciousness of the moment, but a series of feelings or sensations. "If the mind of man," he says, "and all the changes which take place in it, from the first feeling with which life commenced to the last with which it closes, could be made visible to any other thinking being, *a certain series of feelings alone*, that is to say, a certain number of successive states of the mind, would be distinguishable in it, forming, indeed, a variety of sensations, and thoughts, and passions, as momentary states of the mind, but all of them existing individually and successively to each other." To this whole series he gives the name of consciousness.

Now consciousness, as has been shewn, in its very essence implies individuality, and we can conceive its divisibility as little as we could the divisibility of mind, or the thinking principle; while, if Brown's definition were admitted, and that we could suppose it to consist in a long series of feelings, without any connecting link or subject, and without any necessary or obvious relation to one another, there is no difficulty in conceiving the divisibility of an animal with such an amount of consciousness, each segment retaining the same consciousness as the whole. That consciousness which consists in a mere sense of the present, neither including remembrance of the past nor anticipation of the future, is not of necessity indivisible, or attached to a single existence, as mental consciousness must be; but the consciousness which implies sense and perception of the present, with memory of the past, includes all the individuality which mind comprehends, and to suppose the possibility of its division would be, in fact, to suppose not only the possibility of a single consciousness or mind becoming two minds, and capable of existing in different states at the same moment, but of each mind remembering the past as wholly experienced by itself. Consciousness, therefore, in Brown's exposition of it, is nothing but pure sensation, or what is popularly termed feeling, without thought, or memory, or knowledge, or belief of its own existence; while, in its ordinary and proper acceptation, it implies not only a knowledge or belief of

the existence of the sensations felt, but of the being who experiences them*.

All that can be essential to consciousness, thought, perception, memory, belief, we have already seen, are connected with the cerebral hemispheres, and perish with them; volition, therefore, as far as it is understood to be a purely mental act, must also be considered as strictly dependent on the same organs. Like consciousness, it has been used very vaguely, some applying it to all actions of the muscles which are under the control of the will; others limiting it to those actions in which there exists the consciousness of a mental effort. The latter limitation is obviously founded on a strict sense of the popular understanding of the term, as well as its essential relation with those faculties which exist in connexion with the cerebral lobes. The actions which take place after the destruction of those lobes, and in connexion with another part of the nervous system—the spinal cord—however they may evince proofs of design in the adaptation of means to ends, can be looked upon as instinctive or sentient only (if, indeed, the instinctive and sentient functions survive the destruction of the brain); and before even any reasoning can be admitted in support of an opposite conjecture, it must be experimentally demonstrated that the faculties essential to consciousness, and therefore to volition, have no necessary dependence on the brain; which I do not believe can be done.

We have, indeed, abundant proofs, both analogical and direct, that the cerebral lobes are essential to the existence of consciousness; and yet, since all the phenomena usually considered indicative of it—motions expressive of volition, of suffering, of design, and even spontaneous actions—appear to survive the destruction of those lobes, it follows at the least, from all we have stated, that our sole means of determining whether certain muscular movements are the result of consciousness and volition, or of an independent sentient faculty, must rest in the definitions which we attach to the words, and in the anatomical relations of such faculties as are essential to the fulfilment of those definitions. This is, indeed, the only true mode of arriving at just notions of the physiology of the brain, or of the mental functions; and it is because it has never been adopted by psycologists that the received doctrine of mind cannot by possibility be reconciled with the new facts daily arising from the rapid improvements in physiology. "All that we know of the body," says Reid, "is owing to anatomical dissection and observation; and it must be by an anatomy of the mind that we can discover its powers and principles," as if those powers or principles, studied without reference to the organs with which they are connected in life, could be correctly or with certainty distinguished and understood, any more than the functions of assimilation without reference to the organs concerned in them. To assume the examination of mind distinct from body, is to examine the operation of our own minds distinct from the conditions under which only we can be conscious of them: it is as if we attempted to attain a knowledge of the visual power by studying our perceptions of objects, without reference to the organs which alone can furnish the conditions under which vision takes place. The liability to error in inquiries so conducted is well illustrated by the difficulties in which the philosophy of mind has been involved by modern discoveries, which seem to have almost demonstrated that thought and feeling reside not only in different, but in distant parts of the nervous system, and that the latter may exist independently of the former. This will appear still more clearly in some experiments which, returning to our inquiry regarding the organs concerned in consciousness and volition, we shall now instance. It will be seen that they place metaphysicians on either horn of

* It is singular that Brown, while denying the distinctions here insisted on, points to them incidentally in his reasonings on various occasions. It would be difficult to draw a clearer picture of *a sentient being*, as compared with *a percipient one*, than we find in the following extract:—"Even if by some provision of nature our bodily constitution had been so framed as to require no subsistence, *or if instinctively and without reflection* we had been led, on the first impulse of appetite, to repair our daily waste, and to shelter ourselves from the various causes of injury to which we are exposed, though our animal life might have been extended to as long a period as at present, *still, if but a succession of momentary sensations*, it would have been one of the lowest forms of mere animal life. It is only as capable of looking *before and behind*—that is to say, as capable of those spontaneous suggestions of thought which constitute *remembrance and foresight*—that we rise to the dignity of intellectual beings." In common with other metaphysicians, Brown also frequently uses the terms *sentient mind* and percipient mind, as if he meant two essentially distinct and independent faculties.

a dilemma, leaving them to declare that consciousness admits of division, and of existing as so many new and perfect consciousnesses or minds as there are divisions, or that all the phenomena which have been hitherto considered essentially dependent on, and characteristic of, consciousness, may exist without it.

No one, with the notions of consciousness and sensation at present universally received, will deny their possession to an earthworm: its sensibility to irritants—the voluntary nature of its movements—the freedom with which it appears to choose its means of escaping from danger—the certainty that it hungers and thirsts and has sexual appetites, all seem corroborative of the fact. From the simplicity of its organization, too, and the extent to which it admits of being divided into segments, each segment still retaining the conditions essential to its organization, it appeared to present the fairest subject for experiments regarding consciousness that could be selected. These experiments were found to furnish the following results:—

An earth-worm was suddenly divided into nearly equal parts. The anterior part moved rapidly away without much apparent suffering; the posterior writhed itself violently as if in great pain; but after a few movements lay quiet. It continued so for about a minute, and then moved on with the wounded end foremost, progressing at first slowly, but afterwards quite as actively as the anterior part. It sometimes selected a course to the right, sometimes to the left, without any obvious cause. Occasionally it rested, remaining quite motionless, so that I thought it would not move again. In some short time, however, and without the application of any stimulus, it moved onward spontaneously again. There was, indeed, no possibility of distinguishing it from the anterior part except one looked sufficiently close to detect the wounded termination of the former, so different from the pointed head of the latter. At one time, when progressing steadily on, it was observed to stop suddenly to evacuate, as a cart horse does on a journey, and after very deliberately discharging the contents of the bowels it moved on again.

Another earth-worm was divided also in the middle; the fore part moved rapidly away; the tail part writhed as before, then remained quiet for half a minute or more; after which, without the application of any irritant, it moved on like the anterior part. When it came in contact with a pin stuck perpendicularly in its way it moved to one side; when two pins were stuck before it so close as scarcely to allow room for passing, it got apparently jammed between them, after which it shewed no disposition to move until stimulated.

When the same experiment was tried with the tail part of another earth-worm, allowing more room between the pins, it first came directly against one of the pins, then turned a little and began to pass it; but immediately after, as if changing its mind, drew back and passed forward between the two pins. When a penknife was placed crossways in its path it first stopped, then turned its wounded part to the right and moved along the surface of the knife in a direction at a right angle with its former course.

Another earth-worm, nearly three inches in length, was divided with a sharp scissors about three quarters of an inch from the head. The anterior part, instead of running rapidly off, as in the former cases, contracted itself suddenly and lay still, while the posterier darted away tail foremost across the table, as if in excessive alarm. When it had traversed a good distance, fearing it would fall off the table, to the edge of which it was approaching, it was touched at the tail (the foremost point as it progressed) with a probe, upon which it instantly reversed its movements, taking a directly opposite direction without turning, the wounded part being foremost. The anterior part of the worm all this while lay very quiet, but it now began to lift its nose and snuff about, turning its pointed head now to the right, now to the left, yet still retaining its place, so that I began to think it was either glued to the table by the moisture, or had lost the parts of its body necessary to progression. On putting a little bit of earth near it, it coiled round it, and remained so. The posterior part of the worm was meantime continuing its exertions, when suddenly, and without any external cause that I could possibly divine, the anterior piece set out on its travels. As it happened to take the direction of the posterior piece, it seemed almost as if it was going

in search of it. The posterior part had by this time got to the edge of the table, upon which I watched its movements with great curiosity. It first stretched its foremost or wounded part out beyond the table, to look for support or something to cling to; but not finding any thing within reach it turned it in, and fixing it to the perpendicular end of the table, about half an inch or more from the upper flat surface, it arched its body as a leach would until the tail nearly reached the margin of the table, when losing its hold, it fell to the ground. On being taken up it was still lively and inclined to move, but I took no further notice of it.

Another earth-worm was divided into three parts; about half of it having been left to the centre portion, and a fourth each to the head and tail. The two latter writhed a good deal after the division, and then moved on slowly and feebly. The centre piece moved on more actively, changing its direction to right or left, and avoiding obstacles as the former segments did*.

Satisfactory as the experiments on the higher or more perfect animals must be deemed, in proving the persistence of the phenomena which are considered indicative of consciousness after the removal of the brain, they were still open to objections on the part of those who consider the results as wholly opposed to the old and acknowledged doctrines. But here is an animal, the earth-worm, to whom consciousness is fully conceded, and to whom, if it was not conceded, it would be idle to argue on the subject, since no other principle could be shewn, by those who identify consciousness and sensation, as capable of producing the same phenomena; here, we say, is an animal, each segment of which, after division, enjoys the same apparent consciousness and volition as the entire, highly sensible, moving about freely, as feeling or caprice prompts it; resting when tired, travelling on when rested, avoiding obstacle, endeavouring to overcome difficulties, and all spontaneously. It may be fairly inquired, how will this be accounted for by the metaphysician? It will not answer to say, as has frequently been said, that in the lower orders of animals (as the invertebrata) the sensorial property becomes less and less concentrated in single masses, and the character of individuality ceases to attach to the sensorial phenomena. As a statement of a fact it may be undeniable, but if intended as an explanation it must be regarded as absurd mystification on the part of those who cannot conceive the existence of any degree of sensation without consciousness. If such animals enjoy sensation at all in any shape or degree, they enjoy consciousness according to the received doctrines, and consciousness, even in the lowest degree which the metaphysician attaches to it, includes individuality as much as it does in man. Consciousness is, in fact, the thinking principle attending to its own acts*, and can be conceived no more divisible as such, into two perfect and independent consciousnesses in the lowest than in the most perfect organization.

How then are we to regard these extraordinary phenomena? how are we to explain these facts, of animals exhibiting all the indications of consciousness and volition, yet surviving the destruction of the organs on which true consciousness is dependent? If we again revert to the experiments which raised this difficulty, and endeavour to ascertain whether they can suggest any clue that may lead us out of it, we find that with the removal of the brain, all the strictly mental faculties which animals possess—memory, perception, and the association of thoughts, wholly disappear; while life and all the usual indications of sensation, and all the instinctive acts most closely linked with sensation, remain. The creature swallows what is put into its mouth, moves its legs when irritated, and its wings when thrown into the air; but, when not excited by any impression made on the senses, appears in a state of stupor or profound sleep, gives no signs of recollection, even of sensations just felt, nor

* In several such experiments I found that when the worm was divided into three portions, the motions of each are more languid and feeble than when divided into two; and when divided into two unequal ones it is feeblest in the shortest piece, whether it be the anterior or posterior. When divided in the middle, the anterior part is always at first the more active of the two, and usually moves on without much appearance of pain, while the posterior one writhes and seems to suffer, though it eventually moves on also. When the posterior part is the longest it sometimes hurries off without any convulsion or writhing, the suffering in such case appearing only in the smaller segment left behind.

* "Consciousness appears to mean simply the act of attending to what is passing in the mind." —*Abercrombie.*

of such emotions as sensations were wont to excite; and cannot seek its food, nor even avoid obstacles thrown in its way.

If we were not prepossessed with invincible notions of the identity of sensation with the thinking principle, or of its being simply a condition of mind, it would at once occur to us from these facts, that there was an essential difference between sensation and perception—between feeling and consciousness; and that although it might be, that every thing present to the senses, or felt, must also be perceived by all animals having a percipient organ or brain, it does not follow that such animals as are deprived of it, or who never were possessed of one, should not feel. It would, I think, occur to us, that there may be large classes of purely sentient animals as there are of percipient ones, and that in the diseases or accidents to which even the highest organizations are subject, the independent existence of both descriptions of being is illustrated. In apoplexy, in epilepsy, and in profound sleep, in the acephalous fœtus, and in decapitated animals, we have a tolerably perfect illustration of pure sentient existence; and if it be thought so difficult to conceive sensation without perception or consciousness, that we are fain to admit the presence of the latter in those cases, it should be recollected that it is still harder to conceive the presence of perception without a percipient organ, which we have the strongest grounds for believing the brain to be, or the divisibility of consciousness, such as appears to take place on dividing an earthworm or a polypus into segments.

The difficulty one at first feels in conceiving sensation distinct from perception arises from the fact just stated, that sensation is almost always necessarily perceived in percipient beings, and when not perceived is not noted or remembered by the mind, and so cannot become a subject for observation or argument. Sensation and perception seem thus to be co-existent, and become in some sort identified. It is a singular fact, however, that invariably as this identity is assumed alike by the uninformed and the philosopher, both acknowledge distinctions and frequently apply these terms differently, and in senses that would not admit of their being exchanged for one another. There is, indeed, no work treating of the mental faculties in which we do not meet with distinct definitions of sensation, perception, and consciousness, and long chapters specially devoted to each, although we are afterwards, in their application, certain to find the identity, of at least the two former assumed.

Dr. Brown defines sensation to be the simple impression made upon the organs of sense; perception, an association formed between this impression and an external substance, which we have ascertained to be concerned in producing it. Dr. Abercrombie describes sensation as implying the corporeal part, and perception the mental part, of the process by which we acquire a knowledge of external things. Reid applies the term sensation to the changes in a part of the nervous system, called the sensorium, consequent on an impression made on an organ of sense, by something external to it; and the word perception he applies to the knowledge of the presence and the qualities of that something following the sensation. "The impression," he says, "made upon the organ, nerves, and brain, is followed by a sensation, and last of all this sensation is followed by the perception of the object."

The distinction will be understood more readily by the simple illustration given by Mr. Mayo. "I look," he says, "at an object of such dimensions that a single glance serves to satisfy me of its nature: the impressions which I receive through this experiment are three-fold:—1st, a present sensation of colour; 2d, a conviction that the sensation is excited by something external; 3d, a notion of the true size, and form, and distance of the object, which I have seen. The first of these impressions constitutes pure sensation; the second, or the notion which we form of something external as the cause of sensation, constitutes perception; the third class, of impressions described, and which we have learned to associate with the preceding, are our required perceptions.

What we give the name of perception to in common it is true is always made up of impressions, sensations, and perceptions, the latter including the two former; but when we come to examine and define them more particularly, as we have here done, it does not appear that the existence of the former so necessarily includes the latter. If, indeed,

there be any difference at all inferred in the definitions given, it must be admitted that every successive action in the series forming perfect perception may exist, though not followed by that which should naturally succeed it: thus the first impression on the nerves or brain may take place without being followed by that change in the sensorium called sensation, as when a limb which has lost its sensation is irritated, or an amaurotic eye exposed to the light. Again, sensation may take place without being succeeded by perception, as we have reason to believe occurs in apoplectics—in the acephalous fœtus, and perhaps in new-born infants—in decapitated animals, and in the segments of those animals which admit of division, without destruction of the organization essential to the life of each segment. Lastly, such instinctive perception may take place without the acquired, of the truth of which we have no need of illustration.

[To be continued.]

CASE OF PUERPERAL MANIA,

WITH REMABKS.

To the Editor of the Medical Gazette.

Sir,

In your report of the proceedings of the Physical Society, Guy's Hospital (Gaz. Nov. 12, 1838) is an account of a paper by Dr. Ashwell, and discussion on the morbid effects of undue lactation, with remarks on puerperal mania. If you should consider the accompanying case of this latter disease, which has lately come under my notice, worthy of recording, I shall feel much obliged by its insertion in your journal, with some few observations connected with it.

Your obedient servant,

J. D. Jeffery,
Surgeon, &c.

Sidmouth, March 10, 1839.

On Monday, Dec. 12, I was sent for to see Mrs. Slade, who had engaged me to attend in her confinement, expected to take place about Christmas. She is a thin spare woman, with pale countenance and large dark eyes; has had four children. She fancied the pains of labour were coming on, and evinced great anxiety of manner. I found from conversation that the pain she had felt was exceedingly slight, and occurring at long intervals.

Ordered an opiate, and desired her to go to bed early.

13th.—Found her in her room; her manner was strange and incoherent; she wished me to make an examination. I found the head of the child low down; os uteri dilated about the size of a shilling, but rigid, and strongly contracting on the finger; pulse 90, soft. Ordered—

℞ Mist. Camphoræ, ʒvss.; Tr. Opii, ʒiss.; Sp. Lavand. ʒj. M. st. coch. dua magna 6ta quâque horâ.

In the evening I found her exhibiting all the symptoms of puerperal mania, rolling about in the bed, exclaiming loudly, and saying the strangest things, —among others, that her husband, who was then absent, had been killed. Pulse still 90, and soft; and her bowels not having acted since yesterday, ordered—

Ol. Ricini, ʒiss.

14th.—Has passed a very restless night, with seeming symptoms of labour pains. She stares vacantly at every one around, and utters various exclamations; now grasping at vacancy, then apparently endeavouring to stifle herself in the bed-clothes. Perspiration covers the body; os uteri not more dilated than yesterday; pulse still soft, and not quicker. Bowels not having been opened, ordered—

Three strong aperient pills, continuing the mixture twice a day.

15th.—Has passed a very troublesome night, being with difficulty kept in bed; bowels have not acted. She now refuses to take any thing, except occasionally a little wine and gruel; she refuses medicine, exclaiming, "it is poison." On making an examination I find the os uteri *in statu quo;* and on endeavouring to dilate it, it contracts and pinches the fingers; it is turned very much towards the sacrum, and tilted upwards. Pulse about the same as before.

Ordered an enema.

16th.—Has passed a quieter night, but still looks wild, and is insensible; takes more nourishment than yesterday.

Ordered a dose of strong aperient medicine.

Evening. — The medicine has produced several copious evacuations, since which she has been much quieter, and answers many questions rationally. The os uteri is not so rigid, and is somewhat more dilated. I then thought it advisable, in concurrence with the opinion of my fellow-practitioner, Mr. Hodge, who then accompanied me, to endeavour to bring on labour. Ordered—

℞ Tr. Secale Cornut. ʒvj.; Tr. Cardam. C. ʒiij.; Aquæ, q. s. ut ft. mist. ℥vj. st. coch. dua magna omni horâ.

17th.—I was called in a great hurry this morning, at half-past eight. I found her lying on her back, looking wild and pale, and talking incessantly. On making an examination I found the head of the child without the vagina, and she had it grasped firmly in her hand. A pain soon came on, and delivery was accomplished. She seems quite unconscious of what has taken place. The placenta soon followed, and no hæmorrhage occurred. Her attendants informed me that she had slept four hours in the night, and had taken six doses of the medicine. The pulse after delivery was 80, and she had taken a glass of wine and water.

2 o'clock, P.M.—I find her still talking incessantly; pulse has risen to 100, but soft and weak. Ordered—

Sixty drops of laudanum, to be given in water as an enema; and

℞ Mist. Camphor. ʒiv.; Liq. Opii Sedativ. ♏lxxx. M. st. 4tam partem 4ta quâque horâ.

18th. — Has passed a very restless night; her attendants could scarcely keep her in bed.

Ordered an aperient enema and draught, the bowels not having been opened for twenty-four hours.

Pulse reduced to 80; her feet being cold, mustard cataplasms were applied, which remained on an hour.

19th.—Still the same in most respects, but the pulse is lower — 70; bowels have been copiously relieved during the night; evacuations not unhealthy. She takes beef-tea, and occasionally wine and gruel. I now gave her the Ol. Terebinthinæ in drachm doses, with Mucil. Acaciæ, and Mist. Camphor. every four hours.

12 P.M. — Her raving is worse. I found her with the straight-waiscoat on. Has taken two doses of the medicine, which has not affected the bowels. Ordered the region of the cerebellum to be shaved, and a blister applied.

Ordered a mixture containing Antimon. Tart. gr. iv. st. 4tam part. quartâ quâque horâ.

Narcotics seeming to do rather harm than good, it occurred to me that the hydrocyanic acid—as a medicine which may be called purely sedative—might be the best adapted to her case.

℞ Acid. Hydrocyanic, ♏v. Mucil. Acaciæ, ʒij. Aquæ, ℥j. ft. haust. quartâ quâque horâ sumend.

22d.—She has passed a better night, and the nurses say she became more tranquil soon after taking the first dose of the medicine. I find her more sensible.

Evening.—Still better, and has been quiet through the day.

Continue the medicine.

23d.—Has passed a tolerable quiet night, and is certainly slightly improved since yesterday. The nurse says she is decidedly better after each dose of the medicine, which I ordered to be continued.

24th.—She continues to improve rapidly. Having taken twelve doses of the acid, I deemed it unnecessary to proceed with it further.

February 19th.—She has been on a visit to some relations, and is returned perfectly sensible, and to all appearances well.

Remarks.—Puerperal mania is not a common disease, and therefore it is not every one, perhaps, of your readers who will take the same interest in the report of this case: but there are circumstances connected both with its appearance and the treatment, which, I trust, will not be uninteresting to some.

1st. It is not usual for mania to come on before delivery; it commenced in this case at least five days previously. All writers on the diseases of women, and Dr. Gooch in particular, treat of puerperal mania; but I find none, as far as I have the means of ascertaining, who mention it but as a consequence of childbirth.

This disease is fearful under any circumstances; but it becomes much more so to the medical attendant in particular, when he has to contemplate the difficulties and chances of delivery in a patient who is insensible, and whose violence

often prevents the possibility of even an examination.

As soon as I could be certain that the os uteri was sufficiently dilated, and without much rigidity, I deemed it advisable, in conjunction with the opinion of my fellow-practitioner, to endeavour to hasten the process of parturition; hoping that when the uterus was relieved of its burden, the sympathetic effects on the nervous system would be abated, if not cease. And here is to me the second point of interest—viz. that I am furnished with another in addition to the many proofs I have before had of the power of the secale cornutum to effect, under certain circumstances, a safe and effectual action of the uterus. Delivery was accomplished safely and easily in a reasonable time, and, I believe, hæmorrhage prevented, which would, in all probability, in this case have been ultimately if not immediately fatal.

3dly. The cerebral affection exhibited in the form of mania, the peculiarities under which they were excited, and the effects of different remedies, afford matter for contemplation.

The patient had been subjected to much mental anxiety, as well as bodily exertion, previous to her illness; having for some time performed the office of carrier, and driven a waggon to Exeter, a distance of sixteen miles, for her husband, who neglected his business, and also ill treated her, which doubtless induced that depression of the corporeal powers and excitement of the nervous system which led to her ultimate attack.

With regard to remedies, I certainly am of opinion that the hydrocyanic acid was productive of the greatest benefit.

I am aware that the remedy last used is apt to receive the whole, and often very unmerited praise; but in this case I did not depend on my own observation. I was much gratified on questioning the nurse, who, of her own accord, dated the improvement and tranquillity of the patient from the first exhibition of the medicine, and moreover stated, that "she became quieter after each subsequent dose."

From the results of the above case, I should be induced to try, in a similar one, the hydrocyanic acid in preference to other medicines — such as opium, hyoscyamus, &c. which may be called narcotico-sedative.

The hydrocyanic acid seems to act purely on the nerves themselves, without deranging the circulation to produce narcotism; and thus I am led to believe that it is a remedy very superior to most other medicines, inasmuch as its effects are purely sedative.

In that peculiar lancinating pain felt at the epigastrium, like dyspeptics, I have often found the hydrocyanic acid act like a charm: but it must be administered in a simple form—such as with gum arabic and water. I believe its efficacy is much diminished by an admixture with other drugs, particularly with those of a stimulating nature.

After my experience of its action in the above case, I was led to think that prussic acid would be a useful remedy in delirium tremens; and at my request it was tried by my friend, Mr. Hodge, on a patient of his who was labouring under that disease in its worst form. He informs me that his patient, under its exhibition, became much quieter, but the case being an extreme one, and the man ultimately dying, I do not adduce it as a proof of the correctness of my views.

But, nevertheless, I think there are no two diseases which exhibit symptoms so nearly alike as delirium tremens and puerperal mania; and I believe there are no two organs in the body whose sympathies with the brain are more intimate and sensitive than are the stomach and uterus. A thought, we know, or sudden unpleasant intelligence, will disorder the functions of digestion; and again, indigestible matter or stimulating fluids in the stomach will occasion violent disorders of the mind, and often fatal effects on the brain. On the other hand, how intimately is the excitability of the uterus, considered as a sexual organ, connected with the thoughts and imaginations of the mind; and during gestation, in particular, most of its disorders are referable to the mind. With this knowledge, then, we cannot be more surprised that mania should occur through uterine sympathies, than that delirium tremens should be the result of a constant repetition of spirituous stimuli in the stomach.

With these views, I would venture to suggest to the profession a trial of the hydrocyanic acid in some cases of extreme nervous affections, but more particularly of delirium tremens, which too often prove fatal, or are painfully protracted, through the failure of remedies in exerting any control over them.

MEDICAL GAZETTE.

Saturday, April 20, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

USE AND ABUSE OF PURGATIVE MEDICINES.

THE trite and just observation that nations are benefited as much by the interchange of ideas and mutual criticism, as by the barter of commodities, is verified by every day's experience. The dullest traveller comes back convinced that "there be livers out of England," (at Strasburgh, and elsewhere); and the toleration which he has been forced to learn for habits and feelings the most alien to his own, he extends to the less marked deviations of his own countrymen. Every improvement, too, flies on the wings of steam and newspapers, from North Cape to the Ganges; and, as far as social progress is concerned, the *grande pensée* of Henri IV. seems about to be realized, and Europe to become fused into one vast empire.

In medicine, the advantage of this mental traffic is equally conspicuous. The practice of a judicious physician is at all times eclectic; he is a sworn partisan neither of Boerhaave, nor Cullen, nor Broussais; and though many sound practitioners still call themselves followers of Hippocrates, this is only because they have found that Hippocrates is another word for nature. Yet it must be confessed, that in spite of this constant approximation of opinions, there is a strange dissension, on many points, between the best physicians of neighbouring countries, and on no topic more than the one which we have selected for the title of this article. But even here the distance, though great, is smaller than before; the practitioners of France are less exclusively devoted to enemata, and those of England less Hamiltonian, than they were some years ago. The doctrines of Broussais, though pushed to a preposterous extent, have directed the attention of the whole medical world to the effects of drastic purgatives on the inflamed mucous membrane of the stomach and bowels; while, on the other hand, French practitioners, sore afraid and trembling at the experiment, have tried the effects of brisk purgatives, and marvelled to find the patient not only alive, but better.

In this country, although the reaction against the Hamiltonian system began long since, it has probably not yet reached the true medium; and we are therefore not sorry to see that so able a man as Dr. Holland has added his testimony in favour of milder measures, and occupies the middle point between the French physiologist and the Edinburgh physician*.

The first objection made by Dr. Holland is to "the system of giving daily purgatives, and insisting upon daily evacuation; making this the habitual management in health, and treatment in disease."

He observes, that the constitution of different persons varies on this point, and that it is generally absurd, therefore, to endeavour by medicine to force different systems into an unnatural uniformity. This is true; but we think that he has not allowed weight enough to the circumstance, that, although some healthy persons are exceptions, yet the general rule is, that an evacuation takes place daily—a rule with which Locke seems to have been thoroughly impressed, as he wishes children to be *taught* to have a stool every morning. It would, however, be assuredly a great improvement in practice, if the physi-

* Medical Notes and Reflections. By Henry Holland, M.D. F.R.S. &c. Chap. viii. *On the Abuse of Purgative Medicines.*

cian were to ascertain in every case what was the patient's habit in his best health, and thus avoided the risk of error.

He remarks, likewise, that as sudden and violent diarrhœa frequently produces syncope, and sometimes even destroys the patient; so the tendency is the same, though the effects are less rapid and obvious, where a constant irritation is kept up by purgative medicines. Palpitation, too, whether functional or organic, is often increased by continued aperients, and, in nervous or dyspeptic constitutions, is sometimes originally caused by it; yet this is a nice point of practice, as this irregular beating of the heart may arise from congestion in the liver or other chylopoietic viscera, and require evacuation by stool for its relief.

Dr. Holland has sometimes cured patients who are morbidly anxious for a daily evacuation, by expressly advising that it should take place only every other day, and thus, as Darwin would say, breaking the diseased catenation of ideas in their minds, as well as of actions in their bowels. We rather think that these difficulties arise chiefly where good living and sedentary habits meet in the same person, and that the true cure would consist either in subtracting from his food, or adding to his walking, riding, driving, and rowing; but until physicians become despots, and can compel sick aldermen and other crapulous beings to live on a shilling a day, and work for it, we fear that such cases will remain the *opprobrium medicorum*, or rather *ægrorum*.

On the other hand, Dr. Holland adheres to the doctrines of the purely British school in cases where the head is the part affected, or the system of the vena portæ, or in dropsical effusion depending on disease of the organs connected with that system, or where the blood itself is distempered. The last case is distinguished by the discharge of dark grumous matter, generally supposed to be bile, but in fact secreted by the intestines from the morbid blood which reaches them. One large dose, moreover, is better, he says, than a repetition of small ones, which is probably true in most instances; though in delicate habits it may be necessary for the practitioner to feel his way, and see what fifteen grains of jalap will do, before he ventures on half a drachm.

In fevers, Dr. Holland thinks purgatives should be preceded in almost every instance by emetics, and there ought not to be daily purging. Gastric fever he has found to be the form most benefited by the full use of purgatives—a stubborn fact, enough to make a Broussaist shut up the book.

Though the use of active purgatives is to be confined, as a general rule, to actual disease, yet, like other rules, this has its exceptions; and where there is a strong tendency to accumulations in the vascular system, and to deposits in the cavities, full purging at fixed intervals may be an excellent preventive.

Lastly, he thinks that the combination of tonics with aperients might well be brought into more general use; and has known many instances where calomel, colocynth, and gamboge, were of little avail, while a few drachms of infusion of senna, with decoction of bark, effected all that was desired.

Such are the chief points touching purgatives set forth by Dr. Holland; they will be useful to practitioners, and even more so to unprofessional persons, should the work happen to fall into their hands; as the simple layman is too apt to think that his alimentary tube is a sort of India-rubber bag, which he may clean out as roughly as he pleases—forgetting the good old saw, that a man's stomach is in some sort like his

shirt—the oftener it is washed the sooner it will wear out!

There are some few questions relating to the use of purgatives, to which it would not be easy to find satisfactory answers in the common books, but which are yet most deserving of solution. It may seem strange that any thing should remain to be known concerning rhubarb or castor oil; but those best acquainted with the history of our art will be the first to acknowledge how silent or how bare of evidence it is on many points where we should expect to find countless documents. It is asserted, for instance, that while the impression of most medicines is weakened by repetition, a less dose of castor oil will suffice. This would be curious, if true; but a Louis is wanted to count and register. The disgust that most of our countrymen have to oily medicines is a check to their use, nor do we know that even all the methods recommended by Dr. A. T. Thomson will make it savoury. He says it may be taken "either floating on a little water, and covered with a small quantity of any ardent spirit, or diffused in a cup of coffee; or in cinnamon or mint water, or camphor mixture, by means of mucilage of acacia gum, or the yolk of egg."—(Dispensatory, 9th edition, p. 624.) He adds, that to make it remain on the stomach some aromatic tincture is generally requisite.

The French, however, as we once before observed, do all they can to gild the pill of life, and make even medicine agreeable; and Magendie prescribes castor oil mixed with an equal quantity of syrup of lemon juice. Whether this attempt is a successful one, we know not.

Is the author of the Dispensatory that we have just quoted correct, in asserting that rhubarb and a neutral salt mutually quicken each other's action, so that a small portion of each taken together will operate with greater certainty and rapidity than a large portion of either separately? Does that singular combination of a purgative and astringent in rhubarb, which adapts it so well for the cure of diarrhœa, limit its efficacy in other diseases? Does the astringent principle remain behind, after the aperient one has been carried off? or is the subsequent effect dynamic rather than material? It would be instructive, too, if the registers of popular medicine could be unrolled, and we could learn how amateurs administer the more powerful drastics—how they tread on the debateable ground between medication and poisoning. In some cases, no doubt, the limits are overpassed, and the unhappy rustic falls a victim to an old herbal, while in others he is saved, contrary to all rule, by the toughness of his alimentary canal:—

O dura messorum ilia!

CLINICAL LECTURE,

By Samuel Cooper,
Senior Surg. to University College Hospital, &c.

Gentlemen,—If it were possible to doubt the advantages of abstaining from mercury in some stages and forms of syphilis, and of relying upon other remedies, I should say that the results of the practice followed by me in this hospital, for the cure of that disease, would be amply sufficient to dispel all such doubt from every mind capable of deriving instruction from experience. Putting out of present consideration the question of the expediency and prudence of being altogether a mercurialist or a non-mercurialist, and without attempting to demonstrate the error of clinging invariably to one method or another, I may remark, that what is seen in the wards of this hospital furnishes the most satisfactory proof, that the generality of syphilitic forms of disease, both primary and secondary, do not absolutely require the employment of mercury for their cure. But where the progress of any case towards recovery is slow, or the disease remains stationary, notwithstanding the administration of other remedies than mercury, and there is nothing in the state

of the constitution forming a prohibition to the exhibition of the latter, I recommend you, gentlemen, to imitate me, and let your patients make a fair trial of it.

CASE I.—*Primary Sore and Bubo.*

I have at the present time in the hospital a young man, named Ward, who was admitted, with a well-marked chancre and bubo, about five weeks ago. You know that the primary sore has been healed some time, and that the bubo, which plainly contained purulent matter, is daily subsiding, and the case advancing fast to a cure, though no mercury whatever has been prescribed. Three grains of the hydriodate of potash, with decoction of sarsaparilla, have been given thrice a-day; the chancre has been treated with simple dressings, and the bubo at first leeched and covered with linen wet with cold evaporating lotions; but latterly we have been blackening the skin over it with the nitrate of silver, and now simply applying the hydriodate of potash ointment to the integuments, without friction. This is only one instance out of a great number of a similar kind which have been witnessed here.

The question still remains, will this young man have secondary symptoms? To this I should answer, perhaps he may have them, but possibly the chance of their occurrence will not be materially greater than if he had been treated with mercury; and, as a counterbalance to this, I may remark, that the voice of experience is continually proclaiming the important truth, that when secondary symptoms do follow the strictly non-mercurial treatment, they are of a milder nature than those which often take place after the employment of mercury. Thus, unless mercury be given, we rarely or never see the phagedenic forms of secondary syphilis ensue; and my experience teaches me—as it has taught many others—that, under the non-mercurial treatment, the osseous system seldom or never becomes the seat of necrosis and caries,—and the nose, palate, larynx, and cranium, are not endangered. If these be facts, they must fully justify the kind of treatment pursued in this and some other places, and they will even appear to overrule the abstract question about the comparatively greater frequency of secondary symptoms; for if these are of a milder nature after the non-mercurial treatment, this is, beyond a doubt, a much greater advantage than the other.

Then, gentlemen, we are to remember that our non-mercurial treatment embraces the administration of a remedy, the hydriodate of potash, which would appear to possess considerable power both to prevent and cure secondary symptoms.

CASE II.—*Sloughing Chancre, with profuse Hæmorrhage and Phimosis.*

Charles Rawlins, æt. 21, admitted Feb. 26, 1839. Has generally enjoyed good health, and is not addicted to drinking. About three weeks before his admission, he first observed a sore upon the glans penis. The black wash and some aperient medicines were had recourse to, by which he fancied himself cured. In a few days, however, phimosis came on, and since this occurrence he has not been able to retract the prepuce. On the very night prior to his entrance into the hospital, profuse bleeding took place, which, after the loss of not less than three quarts of blood (according to his own calculation), was stopped by means of cold applications.

On his admission, the penis was much swollen, the skin tense and shining, and of a reddish colour. On the dorsum there was a dark spot, about as large as a shilling: this had made its appearance about eight hours before he came into the hospital. In consequence of the phimosis, and the lodgment of a coagulum of blood within the prepuce, much difficulty was experienced in making water. There was a swelling in each groin—not, I presume, a true bubo from absorption of venereal matter, but in all probability a glandular swelling from irritation in the course of the absorbents. The man's countenance was pale and sallow, and he was so weakened by loss of blood, that he could hardly stand. Pulse feeble and quick.

I ordered a good number of punctures to be made in the swollen and œdematous prepuce, so that the fluid distending its cellular tissue might be discharged. Fomentations were also to be employed, and the bowels cleared out with the calomel and colocynth pills, followed up by the senna mixture and 30 drops of the solut. morph. mur. every night and morning.

Feb. 27th.—The punctures afforded considerable relief, but the sloughing has extended, and on the dorsum of the penis there is now a greyish dark-coloured slough, of about the size of half-a-crown; and in the evening it had become both larger and deeper, penetrating, indeed, at one point entirely through the prepuce.

An incision was made through the prepuce on one side of the slough, and the phimosis obviated. As soon as the glans had been exposed, a large ulcer of a greyish colour was seen, which had already extended deeply into the glans and corona glandis, so as to expose a portion of the corpora cavernosa. The sore was now dressed with the liq. sodæ chlorid.

28th.—The slough is loosening. Poultice applied.

March 2d.—The red wash (consisting of two or three grains of sulphate of zinc,

to an ounce of water, and coloured with a little spirit of lavender) now substituted for the poultice. Sore looks cleaner, and granulations beginning to form.

5th.—Sore has now a healthy appearance. Although the chance of the occurrence of secondary symptoms is well known to be materially less after sloughing primary venereal sores than others, I deemed it right (as a further protection to him) to prescribe small doses of the hydriodate of potash (gr. iij.) to be taken thrice a day in ℥ij. of the decoct. sarsæ.

The cure is proceeding quickly, and the swellings in the groin have entirely subsided. The countenance has lost its sallow appearance; the man is recovering his flesh and strength; and the sore, which is only about one-third of its original size, presents a healthy appearance.

CASE III.—*Secondary Syphilis, Ulcers, and Rupia.*

Mary Ford, æt. 34, was admitted December 10, with two considerable ulcers on the arm, and others on the scalp, attended with an eruption presenting very prominent scabs, and the common appearances of venereal rupia.

According to the woman's own history of herself, she had primary venereal complaints eight or nine years ago. She came to us from the St. Pancras Infirmary in a remarkably weak, miserable, and reduced condition, passing restless nights, suffering severe pain in the ulcers, bones, and joints, and with little or no appetite. This, then, was not a case for the exhibition of mercury, unless it had been the aim to convert the sores into rapidly spreading phagedenic ones, and to bring the patient's health into a more deranged and debilitated condition.

I prescribed for her, therefore, a draught of two ounces decoct. sarsæ, with three grains of the hydriodate of potash, to be taken three times a day, with full diet, and one pint of porter. The sores were at first poulticed, but afterwards the tepid water dressing, and latterly the red lotion, were applied.

Jan. 1st.—The above plan has been continued to this date, and the woman's general health is now very much improved, and the sores are nearly healed.

16th.—The hydriodate was discontinued for a few days, in consequence of some febrile disturbance having occurred; but it was soon renewed, and the doses gradually increased.

Feb. 17th.—All the sores are completely healed, and the rupia cured; her only complaint is of some tenderness in the cicatrices.

19th.—Discharged cured.

CASE IV.—*Secondary Syphilis, Tubercular Eruption, Rupia, and Ulcers.*

Elizabeth Wilson, æt. 42, admitted January 31, 1839.

About three years ago, she had a discharge, whether from gonorrhœa or chancre, we know not; but as the discharge was followed by a bubo, which suppurated and burst, the presumption is, that she had some kind of primary sore. These complaints, she says, were communicated to her by her husband, and were cured by the same kind of medicine which he took, and which, from its having made her mouth sore, and loosened her teeth, we may conclude was some preparation of mercury.

Two months after this, she was attacked with pain in the lower part of the tibia, and in the knee-joints. The interval which occurred between the primary and secondary symptoms, I may remark, corresponded in this instance to what is most usual; that is, the secondary began within the period comprised between the end of the sixth week, and that of the third or fourth month, from the time when the primary complaints were cured. About a year ago the right leg ulcerated, the ulceration having been preceded by pustular or tubercular spots, according to the description which she gave of her case. There are also some ill-conditioned secondary ulcers on the right arm, forehead, and neck, with an eruption here and there, presenting the characteristics of venereal rupia.

This woman was not in quite so reduced a state of health as Mary Ford; but she was weak and sallow, and had had no menstrual evacuation for a twelvemonth.

Feb. 1st.—She was put upon the same plan of treatment as Mary Ford, and to the ulcers the water dressing was applied. This day the menses returned; and why they did so directly she had come amongst us I cannot undertake to explain.

8th.—The dose of the hydriodate was now increased to five grains, and the red wash put to the sores, which were already considerably improved.

27th.—The above medicines discontinued on account of headache.

March 2d.—The compound infusion of gentian, with tincture of calumba, directed to be taken in the dose of ℥j. thrice a day.

8th.—Still making progress to a cure. Ulcers all better, and the rupia nearly gone. In order to expedite the successful termination of this case I adopted the plan, particularly commended by Sir R. Carmichael, viz. that of exhibiting small doses of mercury, when the health is improved and the disease on the decline. I directed

this woman, therefore, to take, in addition to the compound infusion of gentian, with tincture of calumba, three grains of the blue pill and five of the extract of guaiacum every night, made up into two pills.

Under this treatment a cure of all her complaints, except one or two small ulcerations on the leg, has been accomplished; and these are now dressed with a weak creosote lotion, and are healing.

Had mercury been freely employed in either of the last two cases, directly after the admission of the patients into the hospital, reduced and disordered as their health then was, I have no doubt that both these women, instead of being now cured, would have been in their graves, or upon the verge of them, with extensive phagedenic ulceration, and implication of the bones of the nose, palate, and other parts. Hundreds of such melancholy cases produced, as I firmly believe, by the injudicious use of mercury, did I see many years ago in the venereal wards of some of the hospitals of this metropolis.

While I am drawing your attention to these facts, it is fair to state, that cases of primary and secondary syphilis do occur, in which, if you persist in abstaining from the use of mercury, the disease lingers for an indefinite period, and you would not be doing justice to your patients were you still to adhere to the detemination of not employing the mercurial treatment; and this is the truth, notwithstanding the full admission of the fact, that in time a cure might be effected by other means, or even by nature herself. But the cases to which I here allude, are not the sloughing and phagedenic forms of syphilis, nor those in which the skin exhibits rupia and secondary ulcers, nor others in which the bones of the nose, palate, and other parts, are attacked by caries and necrosis. I would add, that mercury should be suspended and avoided, not only in all these examples, but in every case of syphilis attended with extreme weakness and emaciation, loss of appetite, sleepless nights, quick feeble pulse, palpitations, and severe derangement of the whole constitution. First try, gentlemen, at all events, to get the general health into a better state; observe what changes such amendment will cause in the specific disease; and then employ mercury, or not, according to circumstances. Frequently, it will not be required; and if judged necessary, it can now be tried with more safety to the patient than at an earlier period.

N.B. Since the above lecture was delivered, Charles Rawlins has got into robust health; but a tubercular eruption on the arms and face has made its appearance, and a small portion of the original sore is not yet healed. As this man has not taken a grain of mercury, it is an excellent opportunity of observing what course the eruption will follow under the non-mercurial treatment.

THE MEDICAL MISSIONARY SOCIETY IN CHINA.

On the 21st of February, 1838, a public meeting, called by T. R. Colledge, Esq. and Dr. Parker, was held in the rooms of the General Chamber of Commerce at Canton, for the purpose of organizing a society which had been long contemplated, called the Medical Missionary Society. Resolutions relating to its object, officers, members, meetings, library, anatomical museum, qualifications of the medical men employed, hospital register, foreign agents, and a public address, were read, discussed, and adopted.

The following is an abstract of the address:—

The object of this society is to encourage the scientific practice of medicine and surgery among the Chinese, and to extend to them some of those benefits which science, patient investigation, and the ever-kindling light of discovery have conferred upon ourselves. To restore health, to ease pain, or in any way to diminish the sum of human misery, forms an object worthy of the philanthropist. But in the prosecutions of our views we look forward to far higher results than the mere relief of human suffering; we hope that our endeavours will tend to break down the walls of prejudice and long-cherished nationality of feeling, and to teach the Chinese that those whom they affect to despise are both able and willing to become their benefactors. In the way of doing them good our opportunities at present are few; but among these, that of practising medicine and surgery stands pre-eminent. Favourable results have hitherto followed it, and will continue to do so. It is a deparment of benevolence peculiarly adapted to China. Could we dispel their fears, and make known to them the true character and desires of civilized western nations, many are sanguine that a more friendly policy would be adopted towards us. We have called ours a Missionary Society, because we trust it will advance the cause of missions, and because we want men to fill our institutions, who, to requisite skill and experience, add the self-denial and the high moral qualities which are usually looked for in a missionary. By the result of such an agency the way will be paved to a higher place in the

confidence and esteem of the Chinese, which will tend to put our commerce and all our intercourse with this nation on a more desirable footing, and to open avenues for the introduction of those sciences and that religion to which we owe our greatness and our happiness. There are also other advantages: among the first we would refer to the benefits which are likely to result to medical science by cultivating it in China. All acknowledge that each country is characterized by the prevalence of certain maladies, and the partial or complete exemption from others; and that the contemplation of diseases influenced by climate, locality, and the general habits of the people, is highly interesting and instructive. To secure the advantages desirable from such a view, a book will be kept in all the institutions connected with the society, into which all important cases will be entered with a notice, not only of the disease and treatment pursued, but also of the province, habits, and other circumstances bearing on the history of the individual. Such books will in time be curious and valuable documents. And from the extensive materia medica of the Chinese we may also look for many valuable additions to our dispensatories. Another advantage will be in the increased acquaintance with China and its people. The information obtained in this way will be of the highest value to all interested in this country, and such as can be depended upon; for a sick man will often deal frankly with his physician, however he may be disposed to conceal facts or garble his statements with any other person. A third advantage will be, the extension to the Chinese of medical knowledge. Facts shew that Chinese parents are not altogether blind to the desireableness of placing their sons in our hospitals, as there are three under tuition in our institution at Canton. Young men thus instructed will gradually be dispersed over the empire, dispensing benefits wherever they go: their success will render them respectable, and, of course, redound to the credit of those from whom they have learned the art. The effect of such influences will be silent, but powerful. These are some of the results anticipated, and it will not be denied that they form desiderata of no ordinary interest and importance. The state of medical science in China shews the value of our efforts. The Chinese doctors are usually unsuccessful literati, and admit their ignorance of medical science, especially of surgery and anatomy. An amusing and ridiculous compound of astrological dogmas, and dissertations on the influence of the elements, takes the place of the well-established principles of physiology and chemistry now received in the west. Nearly all adopt the common vagaries concerning the pulse, which is their infallible key to every ailment. Their knowledge of the circulation is very doubtful. No argument is needed to prove the importance of effecting a revolution in their erroneous systems.

ABSTRACT OF THE REPORT OF THE CASES THAT HAVE BEEN ADMITTED AT THE OPHTHALMIC HOSPITAL, AT CANTON, UNDER THE CARE OF DR. PARKER.

During the period of two years, from 1836 to 1838, 4575 patients have been received.

1. *Diseases of the Eye.*

These, from their great prevalence, have been the most numerous. Chronic, acute, and purulent ophthalmia, cataract, entropia, amaurosis, opacity and vascularity of the cornea, nebulæ, lippitudo, granulations, staphyloma, pterygium, and allengo, are, judging from the reports, the most general. Hundreds have presented, whose sight, from want of timely assistance, was totally extinguished.

2. *Diseases of the Ear.*

These, perhaps, are as numerous as those in the eyes, arising from the pernicious practice of barbers, who introduce a sharp cutting instrument into the ear, by which violence is frequently done to this delicate organ. Only a few have been admitted.

3. *Cutaneous Affections.*

In no country in the world are diseases of this class more numerous and aggravated. Few as yet have been under medical treatment.

4. *Miscellaneous.*

Abscesses, tumors, scirrhus, hare-lip, ulcers, hernia, ascites, and several other minor cases.

Several patients with enlarged spleens of a very aggravated character have appeared, and Dr. Parker is inclined to think that these affections are numerous in China.

Abdominal tumors and scrofula are also common. The nature of the former cannot be satisfactorily determined, as autopsy is not allowed at present.

Facts are constantly occurring which shew the increasing confidence of the Chinese in foreign surgery, and the widening extent to which the knowledge of the operations has spread. As illustrative of the former, Howqua, the senior Hong merchant, has presented £60 to the institution; and in proof of the latter, numbers of all ranks have come long journeys to avail themselves of its benefit. Besides operations on the eye, several others have

been performed. The following are two of the most interesting, condensed:—

No. 3488. *Cartilaginous Tumor.*

May 22d.—Woo Pun, æt. 41, a shoemaker of Pwanyu. *History.* — About seventeen years since a small hard tumor appeared upon the left side of the neck; it gradually increased in size at first, but for the last ten years its growth has been rapid, and from its magnitude become very cumbersome.

Present state.—The tumor is as large as his head, and pendulous. From the submaxillary region it extends backwards over the carotid artery and external jugular vein, and forwards to the opposite side of the trachea; its greatest diameter is downwards. Having been perforated by the escharotics of a Chinese practitioner, it emits a most offensive discharge from the aperture, which is half an inch in diameter, and as regular as if formed by a drill. The pressure of the thumb makes no impression upon the tumor. His constitution has begun to suffer.

On June 19th, at one o'clock, the tumor was removed in about five minutes. Several veins of considerable size were divided. The chief artery, which was a superficial one, by care was not divided until the tumor was dissected out, and thus very little blood was lost. The patient bore the operation with great fortitude. The greatest circumference of the tumor was found to be two feet, and its weight seven pounds.

At three and five o'clock his symptoms were favourable.

At nine he did not breathe so easily as usual, but made no complaint. His brother was depended upon to watch him, and send for me if any change occurred. At one o'clock A.M. I was called, and on arriving found the patient labouring for breath. He was very bloody, and had evidently made a great struggle without success to loosen the bandage. The pulse was just perceptible, and his extremities cold. The neck was instantly freed of the roller, and stimulants administered, with hot bottles to the feet, &c. The man soon rallied, and his dyspnœa subsided. The cause of the suffocation was evident: the oozing of the blood had increased, and not having free outlet, accumulated in the inferior edge of the wound, and pressed upon the trachea. His brother, instead of watching, fell asleep. After reapplying the dressing the patient had a comfortable night, and in one month was perfectly recovered; he now enjoys excellent health, and evinces unbounded gratitude.

No. 3790. *Sarcomatous Tumor.*

June 19th.—Yang She, æt. 20. The formation of this tumor commenced ten years ago, and from its rapid increase in size soon became burdensome, especially the last six years. It is pendent from the chin and larynx, and extends as far down as the umbilicus. The weight being thus sustained by its attachment, which is not more than two inches in circumference, the patient constantly sits in a bracing posture, to prevent its drawing down the head. The natural features are distorted, from the cheeks being drawn tense; and the muscles of the back, being in constant action, are preternaturally large. A native practitioner applied a ligature, which has produced a scar; but from its not being sufficiently tight to strangulate the tumor, it did more harm than good. She is in her fifth month of pregnancy.

Both herself and friends being very anxious to have it removed, I, with the approbation of several medical gentlemen of the H.E.I.C.S., complied with their wishes; and the operation was performed in a few seconds. Two arteries of considerable size required ligatures; some of the veins were larger than the jugulars. The integuments, fascia, veins, and arteries, formed the principal attachments. The operation was borne without a murmur. In seventeen days she was discharged well. Her first attempts to walk were awkward, having lost so much "ballast." About five months afterwards she returned in excellent health, bringing a robust little son. Her features have assumed very much of their natural form.

A peculiarity of the Medical Missionary Society in China, is, that it addresses itself to the consideration of *all*.

The man of science and the philanthropist are here interested, and a rare opportunity is now offered to them of doing good—of enjoying the felicity of imparting to others, without diminution to himself, some of his richest blessings. All are earnestly invited to co-operate in accomplishing a great immediate and positive good, and to aid in uniting to the great family of nations this long severed and secluded branch, and in introducing among this vast people not only the healing art, but in its train the sciences and all the blessings of Christianity. But to the medical profession in particular this Society commends itself, both to their judgment and patronage; and it is trusted that it, as well as the scientific public in general, will manifest their interest in an enterprise so valuable as it doubtless will prove to the medical and commercial worlds. A large and commodious building, capable of containing 200 patients, has lately been purchased at Macao, on behalf of the Society, by the President,

T. S. Colledge, Esq., and will only require about 300*l.* a year for its support—a sum exceedingly small to secure the objects which it has in view. The directors of the London Missionary Society had long been honoured by the distinguished exertions and agency of the late eminent scholar and missionary, the Rev. Dr. Morrison; but, since his death, finding it impossible to introduce Christianity into China by clerical agency alone, have determined, after mature consideration and the evidence of its practicability and propriety, to sustain two medical gentlemen suitably qualified to practise their profession in all its departments, especially surgery, in China; and such have been lately appointed.

Persons subscribing 2*l.* annually will be considered members of the Medical Missionary Society during the period of their subscription. Donors to the amount of 20*l.* will be constituted members for life.

Subscriptions and donations in aid of this specific object, will be thankfully received by the Secretaries of the London Missionary Society, Blomfield Street, Finsbury; Messrs. Hankey and Co., 7, Fenchurch Street; Messrs. Magniac, Smith, and Co., London; or T. Thomson, Esq. Royal Bank, Edinburgh; or Messrs. James Ewing and Co., Glasgow; and will be acknowledged in the Annual Report of the Medical Missionary Society.

B. H., M.R.C.S.

NOTES OF PROFESSOR JÜNGKEN'S CLINICAL REMARKS.

Characters of various Discharges from the Eye. —Fistula Lacrymalis. — Cataract. — Cod's Liver Oil.

H. M., aged 65, has a cystic atheromatous tumor on his forehead, swelling of the lacrymal sac on the right side, on which the lower eyelid is much excoriated; he has also greyish yellow cataract of the left eye. On making pressure on the sac, a large quantity of acrid pus discharged itself; general health pretty good.

Professor Jüngken said that it was very important to attend to the nature of the secretions of the eye, as doing so materially assists our diagnosis in many cases. Thus in the catarrhal forms of ophthalmia the secretion is mild, and hardens into broad yellowish crusts; in the scrofulous it is acrid and irritating; while in the rheumatic clear hot tears shoot periodically from the eyelids, and in pure rheumatic inflammation never contain the least portion of mucus. In like manner, the treatment of inflammation of the lacrymal sac is to be regulated according to the nature of the secretion. Thus, where the secretion is mild, and arising from chronic catarrhal inflammation, the use of a solution of one grain of sulphate of zinc in one ounce of water, varied with the use of weak aqua sapphinica, is sufficient, and will generally produce a cure; but if the tears are hot and clear, and rheumatic inflammation be present, bloodletting and active measures are required. Then, again, if the secretion be purulent, and the sac is once in a state of suppuration, it must be laid open. Nearly the same rules apply to the treatment of true fistula lacrymalis, in which the nasal duct is always implicated, and very generally from extension of the inflammation from the lacrymal sac.

The great object in treating fistula lacrymalis is to restore the nasal duct to its normal condition if possible. Of all its varieties, the most easily cured form of obstruction is, where the nasal duct is blocked up with mucus. In that case the application of slightly astringent lotions is generally sufficient. They should be dropped in between the eyelids at the inner canthus; the use of a syringe is not only unnecessary, but generally prejudicial, by destroying the tone of the puncta lacrymalia. In another form of obstruction, which is analogous to stricture of the urethra, and is the result of more acute inflammation, the sac must be opened and the nasal duct perforated by some body, such as cat-gut, &c. which must remain in it till the passage is re-established. But in a case like the present, where there is every reason to believe that the mucous membrane of the lacrymal sac is destroyed, and replaced by fleshy granulations, and that the nasal sac is quite impermeable, there is no chance of being able to restore the parts to their healthy function. The remains of the sac must, therefore, be obliterated, by laying it open and cauterizing it, and also taking care that the wound heals thoroughly from the bottom. One would, *à priori*, expect that the eye would, after the obliteration of the sac, be constantly subject to lacrymation. But it is not so in practice to any really inconvenient degree; certainly not in many cases which have come under the lecturer's notice; and if the patient will, from time to time, press the tears from the inner canthus of the eye, he will scarcely be at all annoyed by this cause. Professor Jüngken then laid open the sac with a small narrow-bladed scalpel, ascertained by trying to pass a sound, that the nasal duct was quite impermeable, and then cauterized freely the interior of the sac with nitrate of silver.

(The case proceeded most favourably, the wound being dressed from its bottom with red precipitate ointment, and in a couple of days the the excoriation of the eyelid was gone.)

Professor Jüngken then went on to remark, that seeing there was already cataract of one eye, he should have hesitated to cure the fistula if there were not the atheromatous tumor remaining on the man's forehead; no one could entertain a doubt that the cataract, the fistula, and the tumor, were owing to the same state of constitution. It was often very dangerous to remove atheromatous tumors from the heads of old men. He remembered many cases, particularly one of an old officer, in which several such tumors had been removed, and in which cataract had come on within a year. He had no doubt that the two facts stood to each other in the relation of cause and effect. He should not enter at present into the causes of cataract. The yellow hard cataract of old men was generally the result of gouty inflammation. In such cases the operation usually indicated was that of extraction. He should give a few practical remarks on the operation.

Under ordinary circumstances, where both eyes are affected, it is best to operate on both eyes at the same time. From the result of very many comparative trials, he had a great preference for making the section through the lower half of the cornea. The lens escaped with less injury to the eye, and the wound healed more readily, than when it was made through the upper half. The great mistake in operating was in making the section too small. It should include, *at least*, half the cornea. If the point of the knife get involved with the iris, the operation should be proceeded with as if nothing had happened. The bad effects of cutting away a portion of the iris were small, while the partial or entire withdrawal of the knife was most injurious. When the arcus senilis should happen to be present, the section was to be made through it, as the deformity of the scar would be the less. It was quite a mistake to suppose that the existence of the arcus contraindicated the operation of extraction. The appearance in question might possibly be owing to some change in the contents of the canal of Schlemm. This, however, he merely threw out as a hint.

[The canal of Schlemm, discovered by the Berlin professor of that name, is a minute circular canal, situated at the point of union of the cornea and the sclerotica. It is not to be confounded with that of Fontana. Has it ever been demonstrated in this country?]

To snip off or touch with caustic a protrusion of the membrane of the aqueous humor, is as absurd as to do the same to a hernia.

If a child has violent pholophobia, or shyness of light, and will not allow the surgeon to open its eyes on any account, be sure there is not much mischief within.

Nothing helps so much to make conjunctivitis chronic as the too early use of stimulant lotions, and washing the eyes with cold water.

The following case is merely given to show the confidence felt by Germans in the efficacy of cod's liver oil:—

C. S., aged 17. All the signs of scrofula very marked; his face almost square; enlargement of glands about the ear; has ectropium of the right under and left upper eyelid, caused by the scars of scrofulous ulcers. His forehead, the side of his nose, the upper and inferior jaws, and left elbow, covered with ulcers communicating with dead bone.

Professor Jüngken said that it was out of the question to attempt any thing just now with regard to the ectropia. The object, for the present, must be to improve, if possible, the general health of the patient: when it was improved, something might be done for the affection of the eyelids, although they would be the very worst cases for operation, as there had been such actual loss of substance. Three tonics, iodine, iron, or the oleum morrhuæ, might be given. Professor Jüngken had of late seen such benefit from its use, that he should order the patient to take a table-spoonful of the oleum morrhuæ three or four times a-day. J. M.

April 4, 1839.

LARGE DOSES OF ACTIVE REMEDIES.

M. Forget, professor in the medical school at Strasburgh, has lately published, in the *Bulletin de Thérapeutique*, several interesting cases, shewing the *tolerance* of some remedies in extraordinary doses.

Case I. *Tartar emetic.* — A robust butcher, aged 40, labouring under acute articular rheumatism, took tartar emetic in a potion, first in the dose of eight grains, then ten, fifteen, twenty, thirty, forty, sixty, and seventy-two grains (a drachm), and this without any disorder of the intestinal canal, or any other bad symptom. The tongue was moist, but whitish; the patient always ate quarter diet, but became disgusted with the potion, and it was discontinued. Thus in the space of ten days, he took, without inconvenience, about three drachms of tartar emetic. Never-

theless he had a relapse of the rheumatism, but was cured by colchicum wine.

Case II. *Kermes mineral.*—A man, aged fifty-five, emaciated by a chronic disease of the chest, not being able to bear a potion containing six grains of tartar emetic, took four grains of kermes instead, which produced an inclination to vomit. The next day he took six grains; a dose which was increased to fifteen, thirty, and seventy-two, without any bad symptom; but the remedy was discontinued, having no effect on the congestion of the bronchi.

Case III. *Pomegranate root bark.*—A girl of four-and-twenty, fair, and of a lymphatic temperament, had suffered from tænia since her childhood, and frequently passed fragments of the worm in her stools. She took two ounces of the bruised bark of the pomegranate root boiled in two pounds of water, at thrice, with half an hour's interval between the doses, but without effect. The dose was now increased to three ounces, and two tapeworms were expelled; so that in two days, and without any abdominal disturbance, the patient took the decoction of five ounces of the bark of pomegranate root.

Case IV. — *Ioduret of starch.* — Dr. Buchanan, of Glasgow, in 1836, published, in the London Medical Gazette, some remarks on the exhibition of this substance in the enormous dose of 72 grains and more, without any bad symptom.

M. Forget tried this remedy on a youth of 17, labouring under lymphatic turgescence, with ganglionic tumors of the parotids, scrofulous ulcers, &c. The iodine was first given in the dose of 24 grains, with an ounce of starch. The iodine being triturated with a glass of water, was carefully mixed with the starch, and being then diluted with a pound of decoction of rice, was taken in the course of the day, in four doses. The ioduret of starch was borne perfectly well, and the dose was increased to an ounce and a half, two ounces (containing 48 grains of iodine), and two ounces and a half. The fæces were of their regular colour, and the urine, when treated with nitric acid, gave a yellow tint to white paper, or a deep blue when the paper was previously covered with starch; hence it appeared that the ioduret of starch was wholly absorbed. The dose was increased to three, and then to four ounces (containing 96 grains of iodine), but without lessening the disease. The patient now became disgusted with the remedy, and it was discontinued. In forty-eight days he took 139 ounces, or nearly nine pounds, of ioduret of starch, containing 3336 grains, or nearly six ounces, of iodine; being nearly sixty-six grains a day, of this active substance.

Case V. *Bleeding.* — A patient, aged 30, of a splendid constitution and sanguine temperament, was attacked with violently acute articular rheumatism. Thirteen general bleedings of twelve ounces each, and 125 leeches or cupping glasses, abstracted at least fourteen pounds of blood in fourteen days; ten of the general and three of the local, bleedings were performed in ten days, without the slightest fainting, the slightest *souffle* in the carotids, or the least œdema of the extremities. The patient's convalescence was rapid, and in three months he had recovered all his vigour.

We agree with M. Forget in thinking this case quite an exceptional one; and although the severity of the symptoms, and the strength of the patient's constitution, may have justified these evacuations, yet as the author ascribes the fortunate termination of the disease to the use of mercury, we should be reluctant, even in similar circumstances, to push bleeding so far.—*Gaz. des Hôp.* Feb. 19, 1839.

[We entirely agree with the *Gaz. des Hôpitaux* in these observations on the last case, and would apply them to those in which tartar emetic and kermes were pushed so boldly. The patients had a happy escape of it, and that was all. Even the bark of the pomegranate root is said to have produced bad symptoms in large doses. Magendie, however, orders a decoction, made with two ounces of the bark, to be taken in a day (*Formulaire*, 8e édit. p. 381), which is about eight times the ordinary dose. He says that the bark is often mixed with that of box and other plants. The experiments with the ioduret of starch are curious; for though iodine is temporarily decomposed by starch, it is still carried into the blood, as appears from Dr. Buchanan's account (Med Gaz. vol. xviii, p. 515,) as well as M. Forget's case. By giving iodine, in this form, Dr. Buchanan thinks that its irritant or corrosive action is avoided, while it produces the same alterative effects, but with greater energy, from the augmented quantity. On the whole, we believe that bold practice does harm ten times for once that it benefits; but in a tentative art like ours, even the rashest experiments should be registered—for warning, if not for example.—*Translator*]

PITUITARY GLAND.

Rathke has lately traced the origin of the pituitary gland to a tubular prominence from the membrane of the cavity of the mouth. In many animals, and particularly in mammals, a short time before the formation of the palate,

there is seen, far back in the cavity of the mouth, below the base of the skull, an irregular roundish depression in the mucous membrane, but which, at a later period, is not distinguishable. This is the first stage in the formation of the pituitary gland. As it increases in depth, it passes through the layer of formative tissue at the base of the skull, obliquely upwards and backwards, and, after some time, forms a short blind tube, with a very wide aperture. At a later period there forms, before its entrance, a semilunar fold of mucous membrane, which, as it increases in breadth, covers it like a valve from before backwards. As this takes place, also the tube narrows at its aperture in the mouth (as the swimming bladder does in its relation to the alimentary canal), and at last the hole completely closes, and the (now) pituitary gland becomes a perfectly cranial organ.—*Rathke, in Müller's Archiv.* Hft. v. 1838.

BLOOD-GLOBULES OF THE CAMEL AND ALPACHA.

At the *séance* of the Institute, of December 30th, MM. Milne Edwards and Isidore St. Hilaire presented their report on the investigations of M. Mandl, on the structure of the blood-globules of various animals. They confirmed his assertion, that of all that he had examined (including many of the rarer mammalia), those of the dromedary and alpacha alone presented any other than the circular form; and that these were elliptical, their diameters being in the proportion of 1-235 to 1-230.

STATISTICS OF ST. PETERSBURGH.

The *Abeille du Nord* gives the report of the Prefect of Police of St. Petersburgh for the year 1838. It appears from this document that the population of the capital is 469,720, among which are only 136,000 women. The number of births was 10,437, and the deaths were 7,275. During the whole year there were only seven murders and thirty-four suicides.

Among the food consumed were 136,000 oxen, 48,000 sheep, 28,000 calves, 20,000 pigs, 68,000 fowls, 98,000 head of game, &c., besides 10,000 cartsful of fish during the seasons for fasting.

Brandy was drunk to the amount of 28,000*l.*, and corn brandy—the favourite beverage of the Russian peasant—to the amount of 320,000*l.*

In the month of August, the small-pox ravaged several quarters of the town, and attacked persons who had been vaccinated. In other respects the sanitory state of St. Petersburgh was very satisfactory.—*Gazette des Hôpitaux.*

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, April 11.

Thomas Edward Amyot.—Edward Harold, Holt, Norfolk.—Frederick Charles Jones.—Thomas Sale, Manchester.—Henry Shorland, Bristol.—John M'Cay.

April 18.

John Henry Billing, Spondon, near Derby.—Robert Wilson.—John Haliiley Carter.—Frederick Haward, Halesworth.—Wm. Ward, Sheerness.—Frederick Wm. Keast.—Robert Brandon, Bristol.—William Coates.—Henry Lionel Cowen, Jamaica, West Indies.—Thomas Coe, Bury St. Edmunds,—Henry Appleton.—John Campbell, Looe, Cornwall.—Nicholas John Bisson, Guernsey.—William Tyler Smith, Somersetshire.—Garrett Bond, Acle, Norfolk.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *April* 16, 1839.

Abscess	2	Fever, Scarlet	11
Age and Debility	47	Fistula	2
Apoplexy	2	Heart, diseased	1
Asthma	6	Hooping Cough	9
Cancer	1	Inflammation	16
Childbirth	3	Bowels & Stomach	4
Cholera	1	Brain	2
Consumption	31	Lungs and Pleura	12
Convulsions	24	Insanity	3
Croup	2	Liver, diseased	1
Dentition	5	Measles	3
Diarrhœa	1	Mortification	3
Dropsy	9	Paralysis	8
Dropsy in the Brain	5	Small-pox	11
Dropsy in the Chest	2	Thrush	1
Epilepsy	5	Unknown Causes	79
Erysipelas	1		
Fever	11	Casualties	5

Increase of Burials, as compared with the preceding week . . . 43

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

April.	THERMOMETER.	BAROMETER.
Thursday . 11	from 29 to 49	30·42 to 30·45
Friday . . 12	30 47	30·20 30·17
Saturday . 13	40 51	30·17 Stat.
Sunday . . 14	41 54	30·15 30·13
Monday . . 15	42 53	30 07 29·94
Tuesday . . 16	40 57	29·78 29·57
Wednesday 17	42·5 49	29·34 29·44

Winds, N.E. and S.W.

Except the 11th and 16th, cloudy; rain fell on the 12th and 17th.

Rain fallen, ·0125 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

We regret very much that the paper of "An Old Surgeon" is unsuited to our pages.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, APRIL 27, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Diuresis saccharina—continued.

Hence it appears that chyle, under ordinary circumstances, does not contain sugar in any great quantity; but, under certain derangements of the digestive functions, a chyle, with a large quantity, may be prepared and poured into the blood; and if the kidneys, as seems now the favourite doctrine, are to be regarded merely as percolators of the blood—for every constituent, healthy or morbid, has been either found in the blood, or its presence there rendered highly probable—we can have no great difficulty in reconciling the presence of sugar in the urine. It would, however, be very satisfactory, and certainly offers an interesting field for investigation, to determine, not only the presence of sugar in the blood, but the variety of saccharine matter to which it is most analogous, and whether it ought to be attributed to an intermixture of chyle of the same nature. We know how readily the different species of organic matter are converted into each other; during germination, for instance, the albuminous and amylaceous principles of the cotyledons are respectively converted into gum and sugar. The pulps of fruits, too—apples, for instance—become sweet; and during the process of malting, the starch is converted into sugar. It is also well known in culinary concerns, that the starch of potatoes becomes, partially at least, converted into sugar on exposure to frost. But with the nature of the process by which these conversions are effected we are wholly unacquainted, and in like manner we are unacquainted with the minute operations by which similar conversions take place in the animal body. But from what has been advanced, it will be evident that the digestive organs are much in fault, and that, as already observed, an unhealthy chyle probably is thrown into the blood.

We have already stated, that the blood mixed with the fresh chyle passes into the right side of the heart, and from thence into the lungs, where very important changes are effected. First, the chyle is converted into blood, and the blood itself purified for circulation through the different organs. Two causes may operate here: first, the impurity of the chyle itself; secondly, an irregular sanguification in the pulmonary organs. Dr. Prout, however, does not consider the kidney wholly free from irregularity; he says, "but the kidneys, also, are undoubtedly involved in it; and as the natural action of these organs, as will be more particularly noticed presently, is of a dismerorganizing character, these undo what little had been done by the assimilatory organs, and the result is, that the alimentary matter is thrown out in the crystallizable form." From all that has been advanced, therefore, it appears tolerably well settled that the first error is in the digestive functions; next, perhaps, there is some derangement in the respiratory functions—a view supported by the frequent tendency to pulmonic diseases in diabetes; for in the great majority of cases the diabetes becomes complicated with pulmonary disease, mostly of a phthisical character. Lastly, the kidneys themselves, if they have

any action at all, seem to participate in the general degeneration.

Prognosis. — In diabetes the prognosis should always be unfavourable. We have already shewn that a saccharine state of the urine may appear either with or without diuresis. It is the latter, perhaps, which is more manageable. The cases which I have mentioned were kept stationary for a considerable time. The gentleman, however, died, I understand, not very long afterwards from a pulmonic attack, and, from all I could learn, of an inflammatory character, arising from exposure to cold. We must, however, bear in mind, that perhaps a mere saccharine uresis is but the incipient part of the disease, and that unless great care be taken, a severe diuresis may easily be superinduced; and this is certainly a very formidable condition; therefore, even in the better forms, the prognosis should be guarded, and, when favourable, it should be only conditionally so. When, however, diuresis has been fully established, with a saccharine state of the urine, we must not hold out any thing like a favourable prospect. Although Dr. Prout does not consider a mere saccharine urine dangerous, yet when completely established as diabetes, it may be considered as one of the most formidable diseases to which humanity is liable.

Diabetes, however, may last for a considerable time without much alteration, and, as already stated, does not seem to prove fatal of itself; such an event mostly attending other diseases which supervene —such as phthisis, dropsies, or malignant diseases of various forms and characters. Therefore, so long as there appears to be no tendency to any of these complications, we may encourage the patient; and yet it is right to recollect, that diabetic patients who are also affected with any disease of the bladder, are apt to die suddenly with affections of the head, of an apoplectic nature. Upon the whole, a mere saccharine state, uncomplicated with diuresis, is not so very dangerous; complicated with diuresis, it becomes much more so; and if attended with any organic disease of other organs, or shew any tendency to such, there is much more cause for alarm; and, under all circumstances, we must keep in mind the natural tendency, even of the milder forms, to assume the true and severe diabetic character, with ultimately all the irremediable affections with which it becomes complicated.

Treatment.—On this part of the subject I fear there is but little to offer satisfactory. I believe the most authentic reports go to shew that nothing like a radical cure, nor indeed any thing like even an approach to it, has been effected. I am aware that there have been many cases of cure recorded, and a number of remedies have been extolled as capable of producing these beneficial results. However, I need scarcely tell you that not one of these is satisfactory, because the only analogy between these cases and diabetes is the increased flow of urine. But an excessive discharge of urine may arise from so many causes besides diabetes, and many such are nothing more than mere temporary irritation, and which give way to almost any treatment, or even cease spontaneously, that we must look upon these cases as widely differing from the disease we are considering. I therefore consider no reported case satisfactory, unless the characters of the urine have been fully ascertained and stated. Not long since, a gentleman brought me some urine passed, as he asserted, by a patient suffering from diabetes at an hospital where he was a pupil. The patient had been passing several (I believe ten or twelve) pints of urine in the twenty-four hours. The specific gravity was stated to be 1030. The specimen brought to me was, however, only 1010. Of course I need scarcely tell you that diabetic urine never falls so low, and that this circumstance itself would have been sufficient to prove the case of a different description. Yet this case was considered as one of diabetes, and looked upon as an instance of a cure. Perhaps the utmost that can be expected from medicine, at least in the present state of our knowledge, is a mitigation of the more urgent symptoms, or the keeping them stationary.

Aretæus says, that diabetes is but a variety of dropsy, differing only in the part from which the humour flows *; and therefore he states that the remedies useful in dropsies are indicated here†. But we do not find very satisfactory statements in the ancients, and it is not improbable that they have confounded diabetes with diseases of a different character, much more frequently than the moderns. The treatment of a disease, the nature and pathology of which is involved in so much obscurity, and of which so little is really understood, it is evident cannot be established upon any fixed or philosophical principles.

When considering the morbid anatomy, pathology, and the immediate seat of the disease, it was shewn how little assistance was to be derived from all that was known for certain upon these points. Therefore

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* Υδρωπος ἰδὲη τοῦ διαβήτεω πάθος, ἀιτίη καὶ διαθέσι· χώρη δὲ μούνη διάφορον, ἔνθα τὸ ὑγρὸν εκρέει —De Curat. Diuturn. Morb. ii. cap. 2.

† Εστι δε τα ἄκεα ες την επισχεσιν της ξυντηξιος τα ωυτα τοισι ὑδρωψι.—Ibid.

all that can be done is to meet the most urgent symptoms upon general and established principles. "With respect to the *treatment* of diabetes," says Prout, "this has been as various as the opinions respecting its nature; and perhaps there is no disease in which so much mischief has been done upon false principle, and by random experiment, as in this. For my own part, I have no hypothesis upon the subject, and therefore shall proceed to lay down such a plan of treatment as seems to be best sanctioned by general principles and experience *."

The next urgent symptoms, and which cause the greatest distress, are those which arise from the general irritation of the nervous system: these are the febrile heat and its associates—dry, harsh, and rough skin. A question, therefore, of great moment first presents—how far blood-letting is applicable to the relief of these symptoms. It will be recollected that it has been shewn that care and attention will discover a diabetic condition — that is, saccharine urine — when the general observer will pass over the same unnoticed, until irremediable ravages have been made in the system. Now it is with the first class of observers only that the propriety of blood-letting can be at all a question, because it is only in recent cases, and before the vital powers have been completely exhausted, that this remedy can be admissible. And even in these it does not seem warranted, unless the symptoms have assumed a sufficient acuity of character. "In cases of recent occurrence, and of an acute character, there cannot be a doubt about the propriety and even necessity of general blood-letting, which may be repeated as often as the circumstances of the case may seem to require†." If, therefore, we find feverish excitement with high arterial action, a hard and frequent pulse, and especially if there be indications of any local inflammatory condition, bloodletting should be practised to an extent commensurate with the severity of the symptoms. Sometimes, too, blood-letting is necessary to relieve a mere plethora of the system; and although such a state is sometimes superinduced by habitual blood-letting, and which, therefore, is not to be recommended, yet the relief of the plethora by a well-timed and well-regulated venesection is often very beneficial, and, indeed, absolutely necessary. A local condition—a frequent consequence of plethora—often requires the vigorous adoption of the same means; this is congestion. Plethora, however, differs from congestion, inasmuch as the former is a preternatural abundance of blood, whereby the larger trunks are unnaturally distended, and the vital or circulating powers oppressed *. This is evidently to be relieved by removing a portion of the circulating mass in the first; and in the second, by endeavouring to prevent any re-accumulation. Congestion is a sort of stagnant accumulation of blood in the small vessels—more particularly the veins—of the congested organ. As this preternatural accumulation frequently arises from a plethoric condition, and too great impetus of the circulating fluid, therefore one means of relieving it consists in diminishing the velocity and force of the circulation, which is best done by the abstraction of blood. To relieve the local plethora, leeches, cupping, and counter-irritation, are the principal means. It has been stated that sometimes the kidneys have been found in a congested state, and this is indicated by pains in the loins alternating with occasional ease, a sense of weight, lumbago, and sometimes tenderness on pressure. In such cases the cupping glasses should be applied to the loins, or leeches, and their repetition will depend upon the urgency of the symptoms, and the relief obtained.

Blisters are valuable remedies in cases of congestion; but from the irritation which cantharides produce in the kidneys, they do not seem so well suited to the cases under consideration. Instead of blisters, therefore, I generally prefer mustard cataplasms to the region of the kidneys, or a solution of ammonia in water or alcohol, or ammonia applied in the form of a strong liniment. But in many cases, instead of the loins, there is a sense of fulness and of burning heat in the stomach. In some there is a tenderness either in some particular spot, or extending over the whole epigastrium; and in some this tenderness is confined entirely to the scrobiculus cordis, and which the patient dreads to let you touch. In such, I need scarcely observe that the local means should be applied to the affected part.

As the bowels are usually constipated, they should be kept open; and this should be effected by the mildest means; and those aperients which exert a diuretic operation—the saline purgatives, for instance—should be avoided. Perhaps there is none better suited to our purpose than castor-oil: the action may be promoted by the occasional administration of an enema. These means will all of them tend

* On the Diseases of the Urinary Organs, p. 72.

† Ibid. p. 73.

* Plenitudo ad vires vocatur talis sanguinis abundantia, qualis vires moventes opprimat.—*Conspect. Med. Theoret.* cap. xvi. 524.

to reduce plethora, and to relieve congestion.

There are other means, however, and which, though applicable to other cases, seem to be highly prejudicial here—that is, mercury. This mineral seems to exert a very deleterious influence upon the kidneys, when they are at all the seat of disease. I have already brought under your notice instances in which morbid conditions of the urine were superinduced by the exhibition of mercury; and many have occurred in which ulceration, schirrus, and other malignant diseases of the kidneys and bladder, have been the result of a free use of mercury, where a tendency to some of these forms of urinary disease existed. Prout states that saline purgatives, and such as are likely to act as diuretics, should in general be avoided, "as should mercury, which seems capable of doing much mischief in this disease, more especially when pushed to any extent*." Still although, as a general rule, mercury is not suited to this disease, yet there are occasions, as Prout himself admits, which not only admit, but absolutely require, the alterative operation of mercury; but it may be laid down as a rule, to which, perhaps, there is no exception, that salivation is decidedly injurious.

With the view of obtaining the alterative effects of mercury, it naturally presents for inquiry, what pharmaceutical preparation is best adapted for the purpose. Dr. Prout proposes the hydrargyrum c. cretâ. But this preparation contains very little—sometimes none at all—of the oxide of the metal upon which alone its efficacy depends. The more active, as the oxide, chloride, and some of the salts, as the acetate, phosphate, &c., are too active and virulent, at least they are apt to bring on salivation, with mucous ulcerations, which are not only positively prejudicial, but prove highly injurious, by the reaction which the highly irritable state of system so superinduced exerts upon the primary disease; and it is often very difficult to avoid salivation in such habits even from very small doses of mercury, and administered with the utmost caution. I have myself found the oxymuriate or bichloride of mercury not only the most manageable, but the most efficacious, form for exhibition in such cases. In hepatic affections, and in those of the mucopulmonary membrane especially, the latter, attended with great prostration of strength and purulent exudation, I know of no remedy more efficacious. The best form is that of solution combined with a narcotic, as opium*. The formula below I have found extremely efficacious, and I have proved its value, by administering it with success when the other most approved methods of treatment had been adopted under my own superintendence in vain. There is also an advantage in this formula, that the bichloride may be exhibited with many of the vegetable tonics, and the excess of hydrochloric acid will prevent, or at all events obviate, those reactions which would render the combination unchemical, and probably so far inert†. But although there may be occasions to justify a resort to mercury in alterative and harmless doses, yet it is to be clearly understood, that nothing but absolute necessity can authorize our resorting to this mineral; and if my views be just, the bichloride will be found the most manageable, and the most innocent preparation.

Another remedial means of obviating plethora are emetics in nauseating doses. The effects of nausea have been already stated, and they are found to reduce the phlogistic diathesis, and to diminish plethora—agencies readily reconcileable to those who know that nausea reduces the force and frequency of the pulse, and prevents the formation of blood, as well by preventing assimilation as by promoting absorption. The exhausting or debilitating emetics, as they are named, are the most efficacious, by their influence on two

* Dr. Prout, however, qualifies the universality of this proscription, and admits, that as alteratives, their use may be occasionally beneficial. "The occasional use," he says, "of saline and mercurial remedies, directed to the bowels and skin, may be proper, and even beneficial in some instances, particularly when the disease has been a little subdued. It is the *too free* employment of these remedies, and more especially of *mercury*, that I feel disposed to call in question. When mercurial alteratives are necessary, the *hydrarg. cum cretâ* seems to be the best adapted to the purpose."—P. 74.

* In irritation of the mucous lining of the bronchi, attended with the utmost prostration of strength, the expectoration of large quantities of pus, and hectic fever with night sweats, I have found the following very beneficial:—R. Hydr. Bichlor. gr. j.; Acidi Hydroch. dilut. dr. ss.—dr. j.; Morph. Hydrochlorat. gr. j.—gr. iij.; Oxymel. Simp. Mucilag. Acaciæ, aa. oz. ij.; Vin. Ipecac. dr. ij.; Aquæ Destillatæ, oz. iv. Dos. oz. ss. ter 4ve in die. The object of the diluted hydrochloric acid is to prevent any decomposition, especially if distilled water should not be used; and should we wish to add any of the vegetable tonics it would obviate any unchemical reaction.

† It has been stated that Sir Astley Cooper extolled the agency of bichloride of mercury with tincture of bark in scrofula, and when objected to him that the astringent matter of the bark would decompose the bichloride, replied, "Be that as it may, but tincture of bark is quite inert without the assistance of the bichloride, and therefore I shall continue the formula, notwithstanding its unchemical nature, or the decomposition that may ensue." However, to obtain the effect, the bichloride must have been in sufficient excess to leave some of the salt in solution after all possible decomposition had been effected. I need scarcely observe, that a few drops of hydrochloric acid would have obviated every difficulty.

symptoms which we shall now proceed to consider.

Among the symptoms enumerated were excessive thirst and insatiable appetite. Thirst is one of the most distressing sensations; and the allaying the distress by excessive draughts of fluids is one means of aggravating the disease; nor, indeed, can the patient resist this propensity. Aretæus says that there is very great thirst; for he says the fluid voided dries up the body*, and therefore he says that we must apply our means to remove the thirst, not merely to appease it; for by drinking any thing, it excites the discharge of the urine, and liquefying the parts of the body, carries them off with it; and therefore he says our means must be directed to moderate or extinguish the thirst, not merely to assuage it by diluents, to which, he continues, no quantity of fluid is adequate, and that the stomach —the seat of the disease—is to be relieved†.

PHYSIOLOGICAL PROBLEM.

By William Griffin, M.D. Limerick.

Does suffering necessarily imply consciousness? Are sentient beings necessarily percipient?

NO. III.

In prosecuting an inquiry of this kind, the physiologist no doubt finds himself continually staggered in the most apparently legitimate inductions by the recurring question, "Am I then to believe that an animal may experience a sensation, suffer absolute pain, without knowledge or consciousness of it?" Yet this is not more incomprehensible than other metaphysical truths when first proposed to the mind. The young philosopher is quite as much perplexed when he is first taught that all his knowledge of an external world of solidity and extension is not derived purely from the sense of touch; nor his knowledge of figure, magnitude, or distance, from the sense of vision. Brown has, I think, very truly observed, that every original and accurate analysis of our sensations *must afford a result* that will appear paradoxical. Yet in this, as in every other correct analysis, the paradox begins to disappear in proportion as we learn to think clearly on the subject. For instance, when once we can conceive, even remotely, the possibility of a sentient existence as distinguished from a percipient one, it is not difficult to comprehend, that an animal to whom we deny consciousness of being may yet have a sense of being; and, in like manner, that although it may have no consciousness of pain, it may have a sense of pain.

The dogmatic manner in which metaphysicians have generally rejected the distinctions between sensation and perception, or consciousness, here suggested, even those persons who themselves applied the terms differently, and treated of them separately, was little to be wondered at before the extraordinary discoveries in the anatomy and physiology of the nervous system made of late years. But it certainly is calculated to excite some surprise that Mr. Grainger, who has lately written a very ingenious and interesting work on the functions of the spinal cord, and than whom no one was more fully informed of the apparently insuperable difficulties connected with the old opinions on the subject, should venture to dismiss the question in the same absolute and unargumentative manner. "It is, indeed," he says, "apparent that in every systematic treatise the most obscure statements prevail respecting the nature of sensation. Physiologists, although on these points they always speak in a most vague manner, seem to imagine that there are, in fact, two kinds of sensation—one which is attended with perception and consciousness, and one which is not; *but it implies an absurdity to admit a sensation which is not perceived.* In the case of vision, for example, the light falls upon the retina, and produces, by its contact, what is called an impression; *but this impression is not converted into a sensation until it has been perceived by the mind.*" Again, he says, "If we free ourselves for an instant of all these confused notions of physiological writers, it becomes evident that there is but one kind of

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* Δίψος δὲ του τέοισι μέζον, ἐκρέον γὰρ τὸ ὑγρον αναινει.—De Curat. Diuturn. Morb. lib. ii. cap. 2.

† Ες δὲ τὸ δίψος μεγάλης ἰητρείης χρέος, τὸ δε γὰρ ἐν τω ἔιδεϊ ἀλγέων πάν των μέζον. καὶ ην πιωσι τὸ υγρον, προκλησις ουρησιος. ποτί και ἐκθέον τὸ δε ξυναπάγει τῆκον τα εν τω σήνκεϊ. φαρμάκων ὧν αδιψων χρεος· δίψος γὰρ, μέγα, ἀκορίη πολου. ποτον γὰρ οὐδ' ὅσον γίγανηται δίψεος ἄκρος. πάντη δω τω σlομακω απρήγειν, ἔνθα του δίψεος ἀι πηγάι.—De Curat. Diut. Morb. lib. ii. cap. 2.

sensibility, *for the very term sensation implies something of which the mind is conscious;* thus, for instance, if I touch a piece of wood with the finger, a certain effect is produced on the ends of the sentient nerves, which is called an impression; and this impression, when it has been transmitted to the brain, is by the agency of that organ perceived, *and then, but not till then, sensation is produced.*" In these extracts all the assertions (given in italics) are mere gratuitous assumptions of the very points at issue. Not to go any further, if, as Mr Grainger states, when perception takes place, and not till then, sensation is produced, we may fairly inquire what earthly difference he makes between sensation and perception. If impressions produce no sensation until perception takes place, it must be something subsequent to, and arising out of, the perception not antecedent to it, as is usually presumed *; or it must be synonymous with it, and so superfluous. In such case, indeed, much needless difficulty and error would be avoided by always speaking of impressions and perceptions only. But it will be at once seen, by the observant reader, that the opinions Mr. Grainger considers so erroneous have arisen as legitimate inductions from facts and experiments, which, if not satisfactory, are at least more so than any others one can arrive at; while the assumed absurdity of these opinions is derived either from his own theoretic or preconceived notions. For example:—When once it was ascertained that sensation, to all appearance, remained uninjured after the destruction of the brain—the acknowledged organ of consciousness—it became evident that the sentient portion of our being—the sensorium—was very different from, and independent of, the conscious or mental portion, and that sensation could be no longer looked upon as a mere function of mind; yet Mr. Grainger asserts, as if it were almost a self-evident proposition, "that the very term sensation implies something of which the mind is conscious;" and upon this assumption proceeds unhesitatingly to strengthen the foundations of a far more difficult and unsatisfactory theory—that of Dr. M. Hall on the reflex function.

Considering, however, the very perplexed and vague notions of most physiologists on these subjects, it was perhaps not unnatural that those who found it impossible to conceive the independent existence of sensation and consciousness should seize with avidity upon the only other conjecture that made any approach to a solution of their difficulties. Extravagant as the notion might appear, that the attempts made by a brainless or headless animal to remove a source of irritation with its paws, just as if it had not been mutilated—the cries uttered by it when pinched, or when a hair of its whisker is pulled, as in the rabbit—or its dartings forward and endeavours to escape—should be considered as mere insentient phenomena, offering no indications of suffering, and produced by an independent reflex action of the cord, it seemed to present less difficulties than the more commonly received doctrine, that these cries and movements were voluntary, and yet persisted after the destruction of the only acknowledged organ of consciousness and volition—the brain; or that in the lower orders of animals, contrary to all analogy, consciousness and volition were transferred from the brain (the organ with which they are known to be connected in man) to the spinal cord. From all that has been already stated, it must occur to the reader that the perplexities in every view of the subject with modern physiologists have arisen from the vague and unmeaning manner in which the word volition has been applied. It is understood, and properly understood, to imply a mental effort; and so long as it was spoken of in connexion with consciousness or a percipient organ, the application was intelligible; but when the brain was gone, and, of course, perception and thought with it, volition was still spoken off in connexion with sensation. The motions which persisted after decapitation, it was said, were the result of sensation and volition; or, in other words, they were the result of a mental effort, after the organ was annihilated, in which it was acknowledged the animal's mind or perceptions, such as they might be, resided. If the plain and obvious inductions which the results of pathological observation as well as of experiments on living animals suggested, that consciousness and volition—the ascertained functions of the brain—were

* Reid says, "The impression made upon the organ, nerves, and brain, is followed by a sensation, and, *last of all*, this sensation is followed by the perception of the object."

extinguished with it, but that as the signs of suffering, the motions invariably resulting from pain persisted after the extinction, sensation must necessarily persist also as their efficient cause, almost all the difficulties which forced Dr. M. Hall into a new, and, I think, unsatisfactory hypothesis, would have disappeared. The actions of animals after decapitation would then have been attributed to the same influence—sensation, to which so many complicated muscular movements are attributed in the perfect or unmutilated animals, and they would have been denominated not *voluntary*, but *sentient* action; they would have been classed with the actions of respiration, coughing, sneezing, sucking, yawning, vomiting, &c.—with the motions of the apoplectic, of the acephalous infant, and with many of the movements performed in the state of reverie, or in profound sleep.

The extensive influence of sensation in all our muscular movements is so masked by the association of the will in percipient beings, that it is difficult to estimate it. Not only are the actions of respiration, coughing, sneezing, &c., wholly independent of the will, but even the artificial combinations of muscular actions created by it could never be accomplished without the aid of sensation, and are, it would seem, eventually placed almost entirely under its dominion. As a very simple, yet striking, instance of the manner in which mere sentient actions are overlooked in percipient beings, and attributed to volition, I may mention the case of a patient whose arm was paralyzed. By the utmost efforts of his will, made at my desire, he could not move it more than five or six inches from his body, and could not raise it at all; yet, whenever he was seized with a fit of yawning, his mother assured me both arms were extended, and raised freely above the head, but on no other occasions. The movements in yawning have always been considered voluntary, yet here all the efforts of the will were unable to accomplish what sensation accomplished easily and perfectly, proving that those movements are really sentient, and not voluntary.

That such movements are not the result of the reflex function any more than of volition, but are dependent on sensation, I cannot offer stronger proofs than those proposed by Whitt and others, so admirably stated by Professor Alison, and so little affected by any arguments which Dr. Marshall Hall and Mr. Grainger have been since enabled to bring forward. Professor Alison states—

1st. That sensation, as a cause, is adequate to the effects ascribed to it, is manifest from the fact, that the changes in voluntary muscles, in involuntary muscles, and in secretions thus ascribed to sensations, are not only closely analogous to, but in several instances identical with, those which are allowed on all hands to be excited by emotions.

2d. That all such phenomena as we ascribe to sensation, co-exists in the animal system only with indications of sensation.

3d. That, in various instances, sensations may be excited by impressions made on *different* and distant parts of the body, and the actions which succeed them in these different cases are the same, which proves that these actions follow, not an impression or irritation of any particular nerve or organ, *but the excitation of a particular sensation.* This is illustrated by the very various modes in which the sensation of nausea, and the complex effects succeeding it, may be excited, and by the excitation of laughter on tickling different and distant parts of the surface.

4th. Conversely, when different impressions made on the *same* part of the body, excite *different* sensations, even although it be certain they are felt through the medium of the same nerve, they are not followed by the same action. Thus, of many sensations felt through the first nerve, very few only are followed by any diminution of the heart's action, or by retching.

5thly. When the mind is much engrossed, either by previous sensations or by interesting trains of thought, any impressions on the organs of sense are transiently and imperfectly felt; and in these circumstances it is observed that the actions in distant parts, usually following such impressions, are either suspended or imperfectly produced — a further proof that the intervention of the sensation is essential to their production.

6thly. The remedies found to be most effectual in stopping or preventing these actions, when in excess, are either such as make strong and new impressions on the organs of sense, thereby diminishing the effect of sensations already ex-

isting, or else such as blunt the sensibility in general, and so diminish all effects of sensation.

The incontrovertible inferences from these, as well as from the many other facts already considered, were gradually leading physiologists to the conclusions respecting sensation and consciousness which it is the object of the present pages to establish. It was beginning to be very generally acknowledged that the complicated actions of muscles in respiration, sneezing, coughing, vomiting, &c. were independent of the will; and that these, as well as most of those apparently spontaneous movements occurring in decapitated animals, were, however inexplicable it might be, the result of a persisting sensibility. The adherents of older opinions had retired from the field, their doctrines in no sense enabling them to offer an explation of such extraordinary phenomena, when a new theory was proposed—new, not as regarded the fact of movements arising from a reflex action of the spinal cord, but of that reflex action being excited by the impressions simply, and not by sensations.

It is not my intention here to enter into a particular examination of the doctrine of the reflex function, as proposed by Dr. Marshall Hall, but merely to point to such general and important objections as seem at the very outset difficult or impossible to get over.

The theory of combined muscular actions excited by impressions on the extremities of nerves, without the intervention of sensations, necessarily supposes definite and direct connexions between the excitor and the reflex nerves in all cases. Yet Professor Alison has fully shewn that no anatomical discovery—no conjectural connexion of nerves in their course or at their roots—can account for the muscular actions which arise in obedience to certain irritations applied; these actions accompanying or succeeding one another in great variety, not according to the parts or nerves irritated, but according to the sensations excited.

It supposes the reflex action to be produced by the transmission of impressions through excitor or incident nerves, distinct from those of common sensation, and not connected with the brain, to reflex or motor nerves. This, if admitted, would oblige us to believe in the existence of a separate incident nerve, connected, by means of a particular point of the spinal marrow, with several reflex nerves for every different combination of muscular action occasioned by irritation of any single part of the frame. It would oblige us to believe that in the fifth pair are bound up, besides the pure sentient nerves, one nerve for the reception of impressions of cold applied to the face, and connected with the phrenic and intercostal, by which the act of inspiration is performed; and also with the cutaneous nerves of the whole surface, by which a general constriction of the capillaries is produced; another for the transmission of irritations of the nostrils, connected with the phrenic and lower intercostals and lumbar nerves, by which the act of sneezing is performed; and so a new and distinct nerve for every new modification or combination of muscular action which can arise from varying irritations applied to it. The energy or extent of a reflex action may vary with the degree of irritation applied, although the irritation be transmitted by the same conductor; but the nature of the combination or of the sympathetic actions cannot vary, unless by the excitement of a new sensation.

To quote, again, Professor Alison's observations on Sir C. Bell's respiratory system of nerves, which apply as fully to Dr. Marshall Hall's theory, "It offers no explanation whatsoever why irritation in the fifth pair in the nose excites sneezing, while irritation of the same nerve in the cheek excites full inspiration only; and other violent irritations of the same nerve and same branches of it, excite no respiratory action whatever—why the nerves of the diaphragm and abdominal muscles act simultaneously in the actions of vomiting and of straining, but alternately in the actions of coughing, sneezing, laughing, weeping, &c.—or why the nerves of the diaphragm act alone in the case of full inspiration, whether from irritation of the fifth pair in the face or of the par vagum in the lungs—or why the nerves of the abdominal muscles associate themselves and act simultaneously with those of the muscles of the face in the actions of sneezing, laughing, weeping, but not in those of full expiration or coughing, or tenesmus, in which they themselves act with equal force — or why the laryngeal branch of the par vagum, which moves

the arytenoid muscles, acts in concert with the nerves of the abdominal muscles, and closes the glottis in the actions of vomiting and tenesmus, but escapes such combination in the actions of laughing, coughing, or sneezing."

The theory assumes that sensation is only contemporary or incident, and not an essential in these actions; but it is not proved that any of those reflex movements attributed to sensation can take place without its intervention, and seems probable only in very few.

It includes a rejection of the evidences of animal suffering which have been acknowledged by mankind in all ages, and which are assumed instinctively by the brute. It compels us to believe, that when mutilated animals are writhing in torture, their cries, their struggles, their well-directed and natural efforts to remove the instrument of torture, or to escape from it, are mere automatic movements, wholly unconnected with pain. It would, indeed, take away from every human being the proofs upon which the sufferings of his own fellow-creatures is inferred, beyond the mere assertion on their parts, if it was not that the natural signs of strongly felt emotions or sensations affect us instinctively, and far too powerfully to have their influence supplanted by the most specious reasoning.

Finally, if it were even admitted that the struggles and cries, and natural efforts of brainless animals to escape from torture, afforded no indications of sensation, it is not denied that the persistence of spontaneous motion is an incontrovertible proof that sensation still remains: so far from this, indeed, spontaniety of action is proclaimed, by Dr. Marshall Hall, as the distinguishing character of the sentient and voluntary system, as compared with the excito-motor. He says, unhesitatingly, "these latter are never spontaneous; they are always excited:" and, in illustrating the fact by division of the spinal cord in a frog, observes, "I divide the spinal marrow below the occiput, with these scissors: all is still. Not a trace of spontaneous motion. The animal would remain in this very form and position, without change, until all signs of vitality were extinct." I have already pointed out that Dr. Volkmann has found this assertion of Dr. M. Hall's to be erroneous. "If, after the first convulsive movements following decapitation in the frog have subsided, and when the body is little irritable, it be extended on a hard surface, it will (he asserts) retain the position in which it has been put for five or ten minutes; when suddenly, and without the application of any external stimulus, it will draw up its thigh, and change the recumbent for the sitting position." But it is unnecessary to attempt determining this point by reference to experiments in which there can be a possibility of doubt, when we have the fact already stated, of the divided earthworm, before us. Fleuren's chicken, which lived ten months after its brains were taken out, it is said, never moved except it was irritated; but this is precisely what might be anticipated, in an animal so high in the scale of being as to have its ordinary movements more dependent upon perception and volition than upon instinct or sensation. In a purely sentient animal, however—in an animal without brain, or with a brain to which the sentient cord is little subservient—division of the body does not deprive the segments of the conditions essential to spontaneous motion. Its movements in the perfect state being the necessary result, not of perceptions and volitions, but of sensations; and their nature being determined by the quality of those sensations, there is little injury occasioned by division, except perhaps the destruction of some particular instinct, which, unlike common sensation in such animals, may be connected with some limited point of its organization.

After all that has been here objected to the doctrine of reflex motions from mere impressions, it is not my intention to deny the existence of such motions in any case. The contractions of the iris on the admission of light, of the lids in winking, and of the uterus after death, in those cases in which labour is said to have been completed in the coffin, are sufficient to prove that sensation is not, in all cases, essential to the accomplishment of the action which usually succeeds it. In all instances, however, in which reflex movements follow mere impressions, it will, I presume, be found that the connexions between the incident and reflex nerves are clear and direct, as in the several beautiful illustrations of such connexions given by Sir Charles Bell. The relations of muscular motion with the nervous influence, are, I believe, still far from being clearly de-

fined or understood; and there are yet many complications to be unravelled by the physiologist, before he can arrive at the simplicity nature's arrangement. The most numerous and complicated movements of the living frame, appear to be the results of sensations or volitions: some few, classifiable, no doubt, under some simple law, arise from mere impressions; and some, as the movements of flexion and extension, may perhaps be explained by the doctrines of antagonism suggested by Bellingeri.

[To be continued.]

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces of Portugal and Spain.

(As delivered in his Lectures at Sydenham College School of Medicine.)

I.—*On Military Surgery and the general characters of Gun-shot Wounds.*

I have reserved some remarks on the more complicated and serious forms of injury to which the frame is liable until this period of the course, aware that they must naturally find place in a series of observations, which, at the beginning of the session, I promised to give on Military Surgery, on Gun-shot and other wounds and injuries, which play so prominent a part in the military surgeon's practice.

I should, indeed, consider a course of lectures on surgery imperfect which afforded no information on the nature and treatment of gun-shot wounds—a class of injuries met with from time to time, even in civil life—presenting particular features with which it is necessary you should be acquainted—and above all, affording the best field for the practice and the study of surgery in its highest forms, from their destructive and complicated nature. Whoever has been engaged for a number of years in active warfare, and seen much military practice, may fairly be allowed a voice of some weight in matters connected with surgery, especially those which relate to injury from external causes—by far the most important and numerous class of surgical cases.

It is by no means my intention, however, to confine these observations merely to gun-shot wounds; their nature and treatment form but one among many important objects of attention to the military surgeon. Were his sole study or practice these, I should feel less inclined to speak highly of the opinions, the experience, and the skill of the medical staff of armies and navies.

There is no form of disease, nor kind of injury, which does not come under their observation and fall to their care. They constantly, in the discharge of their duties, mark the first inroads, as they watch the last effects, of disease in the human frame, and in every shape incident to man.

The physical and moral causes productive of ill health, and their modifying power on the actions of the system, on disease and injury, equally claim their attention, nay, often are urgently forced upon their observation.

The health of large bodies of men being confided to the military surgeon's care, and that for a long period—men and hospitals placed under his absolute control--he has peculiar advantages for observation on health and disease; and to preserve the one is a not less important part of his duties than to cure the other. In a campaign he is constantly called upon to rely on his own resources solely; to decide with promptitude and vigour on the nature and treatment of injuries of the most various and often fearful character; to organize hospitals—even to create materials for its administration; strike order out of chaos, or at least a state of things much resembling: for these and a thousand other efforts he is called upon, and he must display the necessary qualities, or at once make manifest his deficiency. A vigorous exertion of intellect under the most difficult and disheartening circumstances either becomes habitual to him, or a thousand eyes feel and mark the want of such qualities, and he sinks and must ever remain a mere dresser of sore legs and flesh wounds.

A scene, which passed before me in Portugal, in the year 1834, is still present to my mind. Shortly after an action in front of Santarem, on the 18th of February, I was charged with the service of the Ambulance hospitals of the Portuguese army in Cartaxo, where

the wounded, of all denominations, had been indiscriminately heaped together during the first and second days after the battle, in sad confusion and in a state of great destitution. French, Belgians, Portuguese, friends and enemies, Pedroites and Miguelites! It is not on the battle field, or in the struggle, that the horrors of war are felt: all the passions are there in play;—the hope of victory—the fear of defeat—the excitement of action—joy at success—grief or dismay at disaster, general and individual—all are so many safeguards against calm reflection. We experience any thing in the affray but disgust or horror. These are feelings reserved for the succeeding days while threading a difficult way among the remains of the dead, and the mangled bodies of the dying; but more than any where amidst the groans, the sufferings, and the helpless misery, that every where meet the eye near the scene of action, and in the crowded hospitals of the rear.

I have now seen war in nearly all its aspects. I have been hurried forward in a sudden advance, and borne back with the retreating, with the attackers and attacked; death and wounds in all their various and hideous aspects had even then been long familiar, and yet I confess my heart sickened when, with the greater part of the staff attached to me, I entered the first of the buildings, called hospitals, and endeavoured to carry prompt and efficient relief to the mass of suffering which, in some new shape, stopped my progress at every step. Limbs fractured and shattered even yet undressed; all in the most deplorable state: some on straw palliasses, others stretched on the stone floor and in passages. There was a deficiency of linen, of bandages, of splints, of every essential for their cure: want of attendance, of air, and the whole in a state of filth, which I will not attempt to describe. Add to all this an utter want of order; the shouts of the healthy mingling in horrid din and discord with the groans of the wounded, and a scene more harrowing can scarcely be imagined!

To introduce order among these elements of confusion was my task: and in a six years' military service, which seems now like one unceasing campaign—so arduous was its nature, so incessant were the conflicts—many such have fallen to my lot; and to meet such exigencies, and provide a remedy at once quick and certain for such evils, must be the duty of every military surgeon. Do not imagine that only such things can be met with in foreign armies. Ask the surgeons of the Peninsular forces, in the old war, for a description of the first day after a battle, and from each you will obtain perhaps a more graphic and quite as startling a picture.

I know not whether any of you may contemplate a military career: some possibly may; and to prepare you for difficulties which otherwise might take you by surprise, and without the means of overcoming them, I have placed before you one such scene. Before I slept, aided by the exertions of an efficient and zealous medical staff, all had been attended to, and dressed—several amputations, urgently required, performed—the crowded passages cleared—fresh air and some degree of cleanliness ensured—a regular system and division of duties from the medical officers to the orderlies established. Silence and something like order prevailed, as a final result of the day's work.

The range of a military surgeon's duties, as that of his experience, is the most extended that ever can fall to the lot of a medical man; for this reason: though a rude and perilous school, in such wars as I have served, it is also the best that could be devised for enlarging and improving a surgeon's mind: it teaches him to think and to act with decision and energy, and thus rapidly matures the mental powers. While it gives wide experience to guide the decision, it inspires a confidence and nerve in the performance of operations which never fails the surgeon, and often must ensure the successful issue to the patient.

But I will not detain you longer on the general features of a military surgeon's duties—the advantage or the difficulties inseparable from them; but shall proceed to a few remarks on gun-shot wounds.

Gun-shot Wounds.

In no branch of surgery or medicine, perhaps, do the appearances of effects resulting from similar causes, vary so much as in gun-shot wounds. The variation of symptoms and appearances from the same effects is great; but this expands to an endless and ever-changing field of observation when the whole range of gun-shot wounds is considered;

for here we find every possible degree of injury; and perhaps it rarely happens that any two cases are precisely the same in every particular. Over the bed-side of the wounded there is always much to be learnt, however well we may be acquainted with the principles of the art, and the practice of the eminent military surgeons who have preceded us. It can never, therefore, be a hackneyed or exhausted subject, for it abounds in new forms and characters.

He who writes and speaks, particularly on this subject, from the experience of others instead of his own, M. Dupuytren well remarked, in his clinical lectures on the gun-shot wounds which occured in July 1830, at Paris, can but coldly reproduce that which has already been before the world, and probably in a better form.

That I am not so speaking, in this valuable, and I believe, nearly unique collection of gun-shot injuries you see some proofs; and here are detailed notes of some six hundred cases—the subjects of my careful consideration—selected as the most interesting from among near three thousand treated under my own eye in hospitals, the service of which I directed personally. These merely of injuries; for of disease many thousands more have necessarily passed under my observation in those hospitals. I speak not here of many temporary periods of practice and experience amongst the Spanish and Portuguese wounded in their hospitals occasionally confided to my charge.

I allude to these things, I beg you to believe, not as an idle boast of wide experience, but that you may know I speak to you on the authority of personal observation and practice, on a subject requiring both for opinions to obtain any value. Neither have I any intention of merely bringing under your notice good and successful cases, to give *éclat* either to this class of injuries, or by reflection on myself. You will find good and bad mingled as they occurred—probably more of the latter may purposely be selected, as better proving many principles and precepts; for thus only can you receive correct views. Often more is to be learned from a failure, or from unsuccessful cases, than by more fortunate practice. The great and unprecedented success of Frère Jacques and Raw contributed but little towards teaching us the best mode of performing the operation of lithotomy.

I feel it a duty, now that I am engaged in a series of lectures, during which it will be necessary to bring before you continued proofs of pathological and surgical labours, conducted on no very limited scale, to render the merit where it is due, rather than to assume it all, illiberally and unfairly to myself.

For the evidences of scientific labours with which the table is covered, and the ample records of all the cases treated, I am much indebted to a medical staff, of whom it may be most truly said, as a body, they were unwearied in zeal and humanity. With courage to endure privation, and knowledge to perform their arduous and responsible duties in a most efficient manner, they formed a class of medical men possessing these qualities in a degree I would not willingly undertake to unite now, were I leisurely to commence the formation of a new and equally numerous staff. To Mr. Callander, the Inspector-General, who selected the staff for Spain, the highest credit is justly due.

I had many other duties besides those of the hospitals; one of the principal of which, in the various stations both of Portugal and Spain, I always personally directed; but in reference to all my pathological researches—that for which no time or labour of mine could suffice—the zeal and ability of those gentlemen around me amply provided. My directions were not followed as mere orders on military service, but with an active and scientific interest in their fulfilment and the results, for which I must ever feel grateful. Many are dead—victims to the trying and perilous service to which they unflinchingly devoted themselves. In one short winter I stood by the death-beds of eleven! Some few, it is true, are settled in London or the country, their success in practice already insured by the same exertions and character which distinguished them when serving with me; but many more are in different countries—not a few in different quarters of the globe; and thus, of the absent as of the dead, the justice rendered to them may never reach their ears, but that cannot affect the duty I owe them, not to profit by their unceasing and united labours without acknowledgment; and I have at least one pleasure in performing it, that my motives cannot be misconstrued.

This is rather of personal interest to myself, gentlemen, and I ought to apologize for detaining you; but I felt as these preparations brought vividly to my recollection years of mutual labour, difficulty, and danger, that I could not proceed with satisfaction until I had discharged a debt of conscience, and one of the few debts we remember with pride and pleasure.

Of gun-shot wounds generally it may be observed, that the velocity and force with which a ball moves, of directly influences the nature of the wound. Some curious instances of this have come under my notice. A private in one of the English battalions in Portugal received a musket-ball just above the nostril, which glanced upwards under the integuments, and presented at the inner angle of the eye, having been stopped by the bones of the orbit; yet, strange to say, the bones of the nose suffered but trifling injury, and scarcely any exfoliation took place. In another case, a sailor of the Donna Maria frigate, in the action of the 11th of October, 1832, was sent to me soon after the battle, his leg and arm having been amputated for severe injuries received by the bursting of a gun. On the first dressing I discovered some foreign substance in the thigh of the amputated limb, and, on making an incision, extracted a rough irregular piece of iron of considerable size, weighing nine ounces. The opening it had made on entering, seemed not large enough to admit a substance more than a quarter its size, and with but slight marks of contusion.

Balls sometimes make incised wounds. A sergeant, on the 24th of November, 1832, received a shot in the face. I did not see him on the field; but the next morning he was shewn to me, with exactly such a wound as a sabre would produce across the cheek bone and corner of the orbit, fracturing the bones in the same direction: the ball, most likely, having first struck the low wall behind which he was posted. The concussion produced was considerable; a high irritative fever came on, and he eventually died.

It is stated that a shot striking a muscle in action, will produce a greater constitutional shock than if it struck against the same part of the same muscle quiescent. Such an effect, it has seemed to me, might be explained by the fact, that, to put a muscle in action, there must be increase of nervous influence direct from the brain. This is a point of interest only under one view—viz. that we may not form an erroneous judgement from the degree of shock evident in a patient who has received a merely muscular wound. The vast amount of nervous influence pervading every fibre of a muscle, must have become evident to all who have used the knife. I have seen, in an amputated limb, a quarter of an hour after its removal from the body, the parts, on being divided, put on a convulsive action, irregularly and violently contracting the whole muscle or muscles; and so distinct and strong was this action, that each fasciculus of fibres could be traced in movement, and that for several minutes together. A ball, therefore, that traverses only a mass of muscular fibres, may well produce a shock of the whole system; and this must evidently be greater or less also in proportion to the idiosyncrasy of the individual.

With respect to the appearance of the entrance and exit of the ball, there is more variety in the appearance of the latter than the former. I have seen, however, in a wound of the face, the the opening made by the entrance of the ball not only clear and incised, which is unusual, but so small that it was difficult to conceive the possibility of a ball having passed in. Generally the entrance of a ball is marked by a circularly depressed, torn, and contused opening, while the exit very commonly assumes more of the appearance of an incised wound—a sharp irregular line, frequently with everted edges.

Patients can generally give no information on this point. The surgeon, therefore, must decide for himself as to the entrance or exit, as well as the course of the ball. If the ball itself be forthcoming, much information may be gathered from it. I remember a case where it was a question whether the ball had penetrated the thorax; it was afterwards cut out at some distance from its entrance, presenting, as you see, a flattened, slightly convex, and grooved surface, plainly indicating that it had wheeled round upon the ribs. Here is a very curious specimen of a ball jagged and divided by the force with which it struck the lower maxillary bone; and you see part of the crown of a molar tooth firmly imbedded in it.

This ball entered the left angle of the lower lip, comminuted the left ramus of the lower jaw, and passing directly through the tongue, broke down the jaw-bone at the opposite side. It carried away the second, third, and fourth molar teeth of the left side, and the fourth molar and canine teeth of the opposite, fracturing the maxilla in four different places. The tongue was so much injured that it hung out at one side, of a purple colour. The neck, throat, and fauces, were also much swollen. The ball, at its first contact with bone, seemed to have divided into two portions; one of which cut through the tongue lower than the other, passed obliquely downwards, backwards, and behind the soft parts of the back of the pharynx. The swelling was carefully cut open, and a piece of bullet and the crown of a molar tooth extracted. I may mention that he died on the 20th day, and chiefly from extensive disease of the lungs.

It is often important to obtain clear ideas of the course a ball has taken; and in this matter the patient will sometimes entertain a very strong and erroneous impression. One of the most singular instances I remember was a soldier declaring he had spit out a ball which had lodged firmly in one of the cervical vertebræ, as you see by this preparation. On another occasion, an officer received a musket-shot in the flank, while turning to cheer a regiment on to the charge. I was by his side, and staggered at the same instant, under a violent shock caused, as I felt fully persuaded, by a ball through my knee. Having recovered in two or three moments from the first blinding and sickly feeling, I was well pleased to find that I had escaped with a grazing shot, and proceeded to see what was the matter with my companion, the Colonel. He had been carried a few yards down into a road, out of the shower of shot which had somewhat suddenly fallen upon us: thanks to the white breeches of the charging column. His mistake was a stranger one than my own; for when my forefinger was buried in the wound, following the track of the ball, he was giving himself no little trouble to convince me that the ball had not gone in, until I told him I thought it must, because—the point of my forefinger was four inches deep in his flank.

In fact, wounded men get all sorts of impressions, not only from balls, but about them. Nothing is more common than for a man to assure you he saw the ball drop after it struck him, or that he had picked it up, and persist in it, until, by the aid of such conjuring as a little judgement and a sharp knife will effect, the real Simon Pure is held to his eyes, still red and warm from his body.

If the ball only present an entrance and no other wound by which it could have effected its escape, the best mode of ascertaining its tract is to pass the finger gently and quietly into the entrance; and by a little management you gain very accurate information of the course, even if your finger will not reach the missile. This is a thousand times more decisive than a probe, and is quite as easy in any recent case; for wherever a musket-ball has passed, be assured the opening is large enough for most men's fingers, and is productive of just as little inconvenience as the probe. A ball will sometimes inflict even a deep wound, carrying in a part of the dress, and be brought out with it.

A number of slight shots, I am inclined to believe, are more dangerous to life than one of a serious nature. A soldier came under my notice with several flesh and tolerably superficial wounds on the back from slugs; a high irritative fever set in, and carried him off very rapidly.

Another similar instance occurred in a young recruit, who was shot on the 29th of September, 1832, several slugs lodging in his back; one, however, had injured the spine a little above the sacrum. The patient followed exactly the same course, only his sufferings were more protracted, instead of his death more promptly resulting from the more serious nature of the injury.

Gun-shot wounds upon ligamentous fibres and fascia, I am led to class among injuries the most painful and troublesome, and the least manageable. Major G., an aid-de-camp to Marshal Solignac, when serving in Portugal, received a shot in the leg, which carried the leather of the boot with it through the integument, injuring the tendon of the gastrocnemius, but not penetrating. It seemed a trifling wound, and I called it so; yet the agony he endured then, and the pain and inconvenience he has suffered since, long after the

healing of the wound, seemed altogether out of proportion with the extent of injury; so much so, that I am ready to allow he was not far wrong in a reproach he addressed to me somewhat bitterly, when he said, "The wound may be a trifling one to you, as a surgeon; but, by Heaven! it has never been a trifling one to me, the patient!"

From many instances that I have seen of the great, and more than once fatal, anguish occasioned by the presence of foreign bodies, I am inclined to go further to insure their extraction than is generally recommended. If the ball can be felt, it matters not what depth of muscular parts may lie between, I would have it extracted, and, if necessary, incisions made for that purpose. Two cases more particularly impressed this upon my mind.

The one was a private in an English battalion in Portugal, who, the 16th November, 1832, in a sortie from Oporto, received a musket-shot immediately above the right clavicle. He was brought to me on the field; and on introducing the finger, I could feel the ball with the extreme point, rather more than a finger's depth below the surface, slightly tortuous in its course obliquely across the superior part of the chest. I endeavoured carefully, but for a considerable time, to extract the ball, fearful, however, of using much violence, as the subclavian artery laid bare, was pulsating below my finger, and the common carotid equally exposed on the side. I failed in my attempts. He was conveyed to the hospital with a slight dressing over the wound; and the next morning, better provided with means and instruments, I renewed my efforts, and at length succeeded. He had suffered great pain during the night, and a high irritative fever had already set in, which eventually proved fatal.

A second case occurred in the same day, which terminated fatally also.

Lieutenant B. received a musket-shot in the calf of his leg. He was a strong athletic man, and had certainly the largest leg I ever remember to have seen. I could feel the ball with a probe, passed on my finger, about the centre of the calf, deeply imbedded on every side. The muscles were so powerful, and contracted so forcibly across the course of the ball, that it could only be reached by his standing exactly in the position in which he received his wound, and then only by means of the finger. In this case, as in the former, I anxiously endeavoured to extract the ball by the opening at which it had entered; but the irksome position in which the nature of the wound obliged me to keep him, added to the pain he was suffering, and his own urgent and impatient entreaties, induced me to postpone any further operation till he was more comfortably in his bed. A few hours had scarcely elapsed before great inflammation and swelling came on, and the mere approach of my hand made him shriek with apprehension. Emollient poultices, fomentations, copious bleeding, &c. were directed, to reduce the inflammation, pain, and extreme irritability, which set in with great violence. I was taken ill myself the next day, and before I could leave my room he died. On examination after death, the ball was found flattened beneath the tendino-Achilles, having, in the short space of four days, worked its way from the calf to the heel!

I have always regretted I did not adopt a bolder and more decisive practice, and cut directly down through the muscles of the calf to the ball, making nearly the same incision I should have done without a moment's hesitation had the posterior tibial been wounded. In a similar case I would do so, especially where my patient was of a sanguineous temperament, "living hard," as it is termed, and consequently extremely susceptible of high inflammatory fever and local mischief, and more especially where the ball was in the neighbourhood of a deep strong fascia.

This is in direct contradiction—and therefore do I thus by cases insist upon it—to the precept laid down by Mr. Hunter, "that where the ball lies so remotely from the skin that it can only just be felt, and the skin itself is quite uninjured, no counter opening ought to be made. The wound heals better when the ball is left in, and far less inflammation takes place in the vicinity of this extraneous body than about the orifice of the wound." I am well convinced by all my experience, that the rule and the reasoning are alike founded in error, and calculated to produce disastrous consequences in practice.

The consideration of the last case also leads me to another point of no little importance in the treatment of

gun-shot wounds, viz. the early examination of their nature. In some of instructions I drew up for the guidance of the junior medical officers under my orders, when at Oporto, in 1832, I laid down the following rule, which every year's experience since has most fully confirmed:—

"In examination of wounds, never trust to any future moment for making it more carefully or maturely. The *first* is the best, and often the only one. The parts afterwards become swelled and inflamed, and the patient cannot bear the slightest touch; his future comfort and safety, therefore, often depend upon the officer who first dresses him satisfying himself completely of the nature of the wound. If this be delayed, both the surgeon and patient will have many vain regrets at a later period, even should a mistaken diagnosis not prove fatal, as may unfortunately happen; and, when possible, *the finger is the best probe to be used:* it is less likely to do mischief, and much more certain of conveying correct information."

[To be continued.]

INTESTINAL GLANDS.

To the Editor of the Medical Gazette.

Sir,

Should the following communication appear to you of sufficient importance, you will, by giving it a place in your journal, much oblige

Your obedient servant,

A. Anderson.

173, Hill Street, Glasgow,
April 13, 1839.

Being last winter engaged in examining the alterations which the glands of the intestinal villous membrane exhibit during disease, and having dried on glass a few specimens of Peyer's glands, I observed in some of them a structure which has not yet, I believe, been described. That the following description may be understood, I beg the reader who is not acquainted with the structure of these glands, to refer to the account given by Müller of their cells, and the coronæ of Apertum, which encircle and lead into them. At fig. 1, I have given a plan in section of one of these cells, along with the coats of the intestine and Lieberkuhn's follicles, penetrating about two-thirds of the thickness of the mucous membrane. As the villi are the most vascular part of that membrane, and as they do not exist over the roof of the cell, it follows that a congested gland should have a mottled appearance, from the vessels existing in greatest number between the cells.

When a gland so congested is dried on glass, and allowed to lie for several days, white opaque spots appear in the points, of fainter vascularity, or, in other words, on the roofs of the cells, so that the gland presents the aspect depicted in fig. 3. Since these spots are opaque, they are of course black by transmitted light; and when magnified, are seen to be formed by vascular-like bodies, ramifying to an extreme degree of minuteness (fig. 4, which was taken from a specimen where these appearances were more distinct than in that of which fig. 3 is a sketch.) The same thing may be observed in the solitary follicles of the cæcum and colon (fig. 2.) These ramifications are perfectly invisible till the intestine is quite dry. They are seen in perfection only when the gland has been inflamed; and if it be macerated for a few days before being dried, none appear.

I carefully, with a fine needle, turned off the roof of one of the cells, while still moist, immersed in water, and under the lens, so as to expose without injuring its convex bottom; and having then dried it, found that the ramifications were seen only round the edges of the cavity, and close upon the surface of the specimen, so as to shew that they exist near the free surface of the villous membrane, and on a level with the roof of the follicles.

They are not, however, confined to the last-mentioned part, for although they frequently cover it, yet they seem to extend outwards beyond its margins; and in the specimen from which fig. 4 was drawn, the trunks of larger size appear to be pretty much in a line with the "corona" of apertures already alluded to. This is more plainly the case in a specimen which I possess, taken from the very lowest part of the ileum: in this the follicles had an elongated form, and the trunks generally enclose a long oval. That they are not confined to the roofs of the cells appears also from their being distinct in the solitary glands of the colon, which, accord-

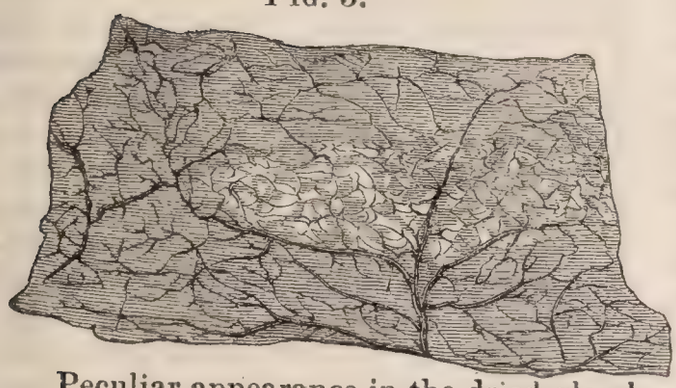
ing to Müller, have no roof, being open above. I have not yet been able to detect the ramified structure in the solitary glands of the small intestines. In the Peyer's glands of the cat—the only inferior animal which I have examined—it is distinct, but the branches seem to divide less minutely than in the human subject.

Fig. 1.



Section of Peyer's gland.

Fig. 3.



Peculiar appearance in the dried gland.

smallest venous branches are not filled, and in the intermediate spaces the vascularity is less minute, since the blood, conveyed into the villi by several arteries, is returned by a single venous twig, of comparatively large size, passing down the centre of each villus.

As to the nature of the peculiar structure I have now described, it is plainly in some way connected with the follicular apparatus, as it is confined to the Peyer's and solitary glands: the ramifications have much of the tree-like form of secretory tubes, and we are immediately led to conjecture that their function may be secretion. The circumstances of their being invisible in a piece of intestine which is moist, or in one which has been macerated, would seem to favour the opinion of their visibility being due to their repletion with some substance, opaque when dry, transparent when moist, and soluble in water; and as they are scarcely seen in glands which are not more or less inflamed, it is very probable that they are called into full action by disease alone. This appears to agree with the hypothesis of my friend, Dr. Staberoh, of Berlin, who

In a Peyer's gland well injected with size, minute arteries are seen branching very tortuously in the roof of the follicle, and covering the inner wall of the cell, so that, when the specimen is dry, they seem in some places to mix with the above-described ramifications; in a congested gland dried with the blood in its vessels this is not observed, as the

Fig. 2.



Same appearance in solitary follicle of colon: fat globules surround the larger venous ramification.

Fig. 4.



Same magnified—$\frac{1}{2}$ inch focus.

supposed that, in irritation of the Peyer's gland, a peculiar substance was developed, which caused ulceration by the irritation of its presence in the tissues, and I possess specimens in which the roofs of the cells have been removed probably by this process. In others, a whitish matter fills the cell; and in several cases I have seen it disposed on its bottom in a distinctly stellated form. Whether this matter be poured into the follicle from the ramifications I know not. I have plainly seen openings on the inner surface of the cell; but, from their size and situation, they appear to be the internal mouths of the oblique canals into which the apertures, forming the external corona, lead.

This white matter being in the cells, exists close to the villous surface, and in minute quantity; but a superficial observer might easily mistake for a peculiar deposit the indurated, matted, vascular, cellular tissue, which in some instances attains a thickness of nearly one-third of an inch under the Peyer's gland, presenting, unless carefully examined, all the appearance of a mass of a totally different nature.

CASES OF OPHTHALMIA.

To the Editor of the Medical Gazette.

Sir,

The following ophthalmic cases appeared to me at the time they occurred to be possessed of some interest. If you think they are likely to prove so to a portion of your readers, you will oblige me by inserting them in the pages of your journal.—I am, sir,

Yours respectfully,

John Walker.

Manchester, April 15th, 1839.

Paralysis of Motor Oculi Nerve.

Case I.—Mary Davis, æt. 37, admitted an out-patient of the Eye Hospital, 23d of October, 1838. She states that four days since, on awaking in the morning, she was unable to elevate the upper lid of the right eye, which had been previously unaffected. She had been frequently troubled with giddiness, and some pain in the head. She has likewise a good deal of twitching about the muscles of the face of the opposite side, which has existed for some time past.

There is now a complete drooping of the superior eye-lid, and scarcely any power to enable her to raise it. The lid being raised with the finger, and being told to move the eye about in various directions, she is unable to do so, except outwardly. The pupil is dilated and immoveable. Vision is not much impaired, and no other mark of disease is discernible. She was ordered to be bled from the arm, *ad deliquium;* to take a calomel and jalap powder occasionally, and 10 grains of blue pill night and morning.

October 26th.—The giddiness is removed. She has some pain in the eye on moving it. With some exertion, she can now elevate the margin of the lid to the upper part of the pupil. The motions of the eye-ball are stlll much impaired. The pupil is somewhat less dilated.

Ordered a blister to the temple, to be kept discharging with the Ung. Lyttæ. Continue the blue pills as before. A dose of Sulphate of Magnesia occasionally.

December 4th.—The mouth has been kept sore for some time. She is much improved. Can now elevate the upper lid almost as well as before, but cannot keep it up very long at a time. The motions of the eye-ball are now accomplished with some facility, and the pupil is more contracted.

From this time she gradually recovered, and was soon able to be discharged.

Case II.—Mrs. F., æt. 40, applied to me on the 27th of November last. She states that about a month since she received a blow on the right eye, which rendered her faint and insensible for a short time. When she recovered, she found that she was unable to raise the upper eye-lid, in which condition she has continued up to this time.

Both eye-lids are now perceived to be almost in contact; the upper completely covering the cornea. She has not the least power over the levator palpebræ muscle, and, consequently, if she desires to expose the eye she is compelled to push up the superior eye-lid with her finger, on the removal of which it again instantly droops. The winking motions continue regularly with those of the opposite eye. On separating the lids, the pupil is observed to be a good deal dilated, but her vision is not much impaired. She is able to discern any object with this eye; but, after looking for a few seconds, she becomes sick and giddy, and can see no longer. She cannot move the eye-ball either upwards, downwards, or inwards. The external direction is the only one that can be effected, and this is its usual position.

She has experienced much pain about the forehead; first over the right eye, and since over the left. Occasionally she experiences a sense of vertigo. In other respects her health is good, although she is evidently a delicate person.

Ordered Empl. Lyttæ nuchæ applicand. Hydrarg. Submur. gr. iv. ter in die sumend.

Dec. 10th.—For several days past she has been suffering from ptyalism, her mouth being very sore, and discharging a watery fluid; she then left off taking the calomel. The ptyalism is somewhat abating. There is a slight improvement in the action of all the paralyzed muscles.

Ordered to take two purging pills, containing two grains of calomel, every or every other night. A blister to be

applied to the temple of the affected side, and the part to be dressed occasionally with Ung. Lyttæ.

Jan. 10th.—A very marked improvement is now observable. The upper lid is raised almost to the same extent as that of the other eye. She can move the eyeball, too, in every direction, but not quite to the full extent; it is still slightly turned outwards; the pupil is also more expanded than natural, but is considerably smaller than at first. Vision improves; the pain in the head has disappeared; her mouth has continued slightly sore up to this time, and the blister has continued to discharge.

Continue the pills, and let the blister be kept open.

From this period her recovery was rapid, and is now complete.

It is difficult to decide whether the symptoms in this case arose from an affection of the nerve within the orbit, or of the brain about its origin, or in the course of the nerve within the cranium. In every case of this description that I have met with (and I have seen a moderate number of cases), the symptoms always indicated more or less cerebral mischief. I can scarcely regard this as an exception. Dr. Mackenzie has, I apprehend incorrectly, stated that there is one form of this disease which may be regarded as rheumatic—a term which appears to me inappropriate when applied to the affection in question. He appears to consider it as an analogous disease to that which sometimes affects the branches of the portio dura when the side of the face is paralyzed; but the branches of the portio dura are very differently circumstanced to those of the motor oculi, the former being much exposed to the influences that bring on rheumatism, the latter scarcely at all so.

The disease generally yields to the kind of treatment pursued in these cases; when it is otherwise, it usually happens in persons who are difficult to bring under the influence of mercury.

Traumatic Cataract, simulating Fungoid Disease.

Louisa Stone, a delicate looking child, aged 3 years, was brought to me on the 17th of October last. It appears that about five weeks since, whilst attempting to sew, she accidentally pricked her right eye with a stocking-needle. For some time afterwards no bad consequence was perceived, and her friends concluded that no injury had been done to the organ; but in about a fortnight after this the eye became inflamed, watery, and intolerant of light, and assumed a very dim and muddy appearance, which condition has remained up to the period when she was brought to me. She is now usually very drowsy, and appears to have much suffering in the eye, although her health is not otherwise much affected.

On examining the organ, there is considerable vascularity of both conjunctiva and sclerotica perceptible; the iris has a very dull, muddy appearance, the pupil being drawn to the inner angle, transversely oval in shape, motionless, and somewhat dilated. An opaque body is seen behind the pupil, having a yellowish brown colour. The cornea does not exhibit any appearance of disease. The whole eye has a disagreeably dull and unhealthy aspect, so much so as to convey the impression to my mind that the disease might be of a fungoid character. However, on the whole, I was inclined to regard the symptoms as arising from injury of the crystalline lens, which being broken up and pressing against the iris, had produced the inflammation then existing. The irregular form of the pupil—the result probably of the wound of the cornea and iris—rather tended to confirm this supposition.

Four leeches were directed to be applied around the eyelids, to be followed by the free use of an evaporating lotion. A powder of calomel and rhubarb to be taken every other morning.

22d.—The inflammation is somewhat diminished; she is able to expose the organ to the light, but it is still watery; she appears more lively, and suffers less pain.

Apply three leeches. Contin. Lotio. Two grains of calomel to be taken each night.

Nov. 3d.—The opacity behind the pupil has now a more lustrous and shining appearance, and the idea of a fungoid affection again forcibly presents itself. It certainly exhibits a striking resemblance to it in the bright metallic reflection which is seen in that disease. She appears better in health, is more cheerful, and makes no complaint. There is still considerable vascularity of

of the outer tunics; but she exposes the eye more freely to the light.

A dose of calomel to be given every third or fourth night, with senna infusion on the following morning.

7th.—Has not exposed the eye so much within the last few days. It presents precisely the same appearance as at last report.

26th.—The vascularity diminishes, and the eye bears exposure better again. The organ looks more healthy, the shining appearance having vanished, and the opacity behind the pupil now resembles that ordinarily seen after injury of the lens.

Dec. 3d.—The vascularity is much diminished; the eye-ball, it is now evident, is beginning to absorb, being considerably shrunk, and feeling soft on pressure. Bears exposure to the light very well, and makes no complaint.

No further bad symptoms occurred. This case was at first, as well as during its progress, somewhat puzzling. It is easy to conceive that it might have been mistaken for fungoid disease, an operation might have been performed for its removal, and much unnecessary pain have been occasioned. I was much gratified when the eye put on the appearance of absorbing, having much feared that it would have taken an opposite course. It was quite possible that there might have been incipient fungus previous to the accident, and that the irritation succeeding it might have hurried on the progress of the malady.

Capsulo-lenticular Cataracts.—Extraction at a very advanced age.

Mrs. H., 87 years of age, has lost the sight of both eyes for a period of eight years. She is unable to discern any object, but can perceive the light of a candle, of the fire, or that of day. Her vision became gradually impaired, and without any obvious cause.

Dec. 4th, 1838.—On examination, it is evident that there is an opaque lens in each eye. The cataracts are of a pearly white, have a radiated appearance, and are nearly in contact with the posterior surface of the iris. The pupils are active and rather contracted; the anterior chamber small; in other respects, both eyes are remarkably healthy, with the exception of the cornea exhibiting a broad *arcus senilis*. The eyes are, of course, somewhat sunk in the orbit. Her general health is very good, considering the advanced age.

Having explained to her the chances of a restoration of sight, from an operation, she became eager to have it performed. Although I was desirous of attempting the operation for extraction, there were some circumstances in the case which are usually regarded as unfavourable to that proceeding. The existence of the arcus senilis; the uncertainty of sufficient reparative powers, at such an advanced period of life; the small anterior chambers; the rather sunken eyes, were all of this character. As it was possible, therefore, I might be under the necessity of substituting depression for extraction, I determined upon applying the belladonna. This was directed to be done at night, and to be renewed in the evening.

5th.—This morning the pupils were found to be fully dilated, and, as had been previously agreed on, she was prepared to submit to an operation. As she was perfectly steady and composed, I resolved to attempt extraction by the upper incision of the cornea. She was laid upon a sofa, her head being raised and supported by three or four pillows. I seated myself on a chair behind her, and began with her right eye. Taking Beer's knife in my right hand, and raising the upper eye-lid with my left, the puncturation of the cornea was commenced at the temporal side, the knife pushed rapidly through the anterior chamber, the counter-puncturation being effected at the nasal side, and the instrument made to cut its way out so as to divide the upper half of the circumference of the cornea. Whilst this was in progress the pupil was observed to be rapidly contracting, and by the time the incision was completed it was as much contracted as if the belledonna had not been used. After the lapse of a few seconds, during which the eye-lids were closed, the proceedings were resumed. The curette was cautiously introduced under the flap of the cornea, and between it and the iris into the pupil, and the capsule gently lacerated. Slight pressure on the inferior portion of the globe was then employed, and the lens instantly protruded through the pupil and out of the wound. The lens was found to be exceedingly opaque, of a very firm consistence, and of a deep amber co-

lour. The opaque capsule was still seen to occupy the pupil, but was not interfered with. The eyelids being closed, strips of adhesive plaster were then placed over them, passing from the brow on to the cheek, so as to keep them at rest.

As she had suffered but very little from the operation on the right eye, I then proceeded to a repetition of the process on the left. Retaining my seat behind her, and supporting the upper lid with my right hand, the knife being in the left, I made a transverse section of the cornea, cutting out directly upwards, in the same manner as before. The cornea of this eye was much firmer, and the knife did not cut out with the same ease as in the other, but nevertheless the section was quite perfect. This eye appeared more sensitive to the knife than the other, but on the whole she complained very little. The pupil contracted in the same way, the capsule was opened, and the lens discharged with the greatest facility; the whole business occupying but a few seconds. The opaque capsule remained as in the other eye. The same dressing was applied. I advised that she should remain on the sofa, without being disturbed until evening, and then be taken carefully to bed.

5th.—She has had very little uneasiness since the operation; has slept well during the night. The plasters having become loosened were removed, and fresh strips applied.

7th. — Complains rather more this morning. Has been restless during the night from some uneasiness about the eyes, which she attributes to the plasters. The latter were removed, and a fold of linen, dipped in tepid water, applied instead, and ordered to be renewed occasionally.

9th.—Found her this morning sitting up, quite tired of bed, and fully determined to remain there no longer. The right eye looks remarkably well; the incision evidently healed; the anterior chamber distended with aqueous humour; a regular pupil, and no capsule to be seen. The left could not be seen so well, the conjunctiva being rather injected, and not bearing exposure to light.

15th.—There has been a little inflammation of the conjunctiva of both eyes during the last two days, for which, however, she has not required any thing more than cloths dipped in warm water, and the internal exhibition of a mild purgative twice. She can now bear a slight exposure of her eyes to the light, and is able to perceive many objects, particularly such as are bright or shining.

21st.—Improves rapidly. The inflammation has very nearly subsided. The right eye looks exceedingly well. In the left there is a slight protrusion of the iris through the upper part of the cornea, so that the pupil is drawn a little upwards. The cornea of this eye was much tougher at the period of the operation, and the knife appeared to be cutting through cartilage, the point having been broken off.

From this time nothing particular occurred. The prolapsus of the iris was touched three or four times with the nitrate of silver, which completely removed it. She was soon able to read with cataract glasses. Her health has improved, and her countenance become more animated since the restoration of her sight, owing to her being able to move about better, and to take more interest in what is going on around her.

The result of this case is favourable to the operation of extraction, where it is often supposed to be contra-indicated. It is evident that the presence of the arcus senilis is no obstacle to the healing process*. The incisions in this case united without any difficulty; and that of the right eye it is now almost impossible to trace. The protrusion of the iris in the left renders it more apparent, but this is a common occurrence even in young persons.

The difficulty in cases where there is a small anterior chamber is, I think, very easily got over, by causing the pupil to be well dilated, there being then less chance of wounding the iris. Indeed I doubt whether, under any circumstances, dilating the pupil can do any harm; since, as happened in this case, it becomes again contracted almost by the time the incision is completed.

There seems an obvious advantage in making the corneal incision upwards, as respects the after treatment. The upper lid forms an admirable compress, nicely adapted to keep the surfaces of the wound in apposition; whereas, in

* See Jüngken's opinions in the last number of GAZETTE.—*Ed. Gaz.*

the lower incision, the wound is in almost immediate contact with the margins of both lids, and is liable to be irritated by their winking motions, which no dressings can entirely prevent. The greater steadiness of the patient, too, in the recumbent posture, is a matter of consequence, particularly to the unpractised surgeon.

The advantage of operating on both eyes at one sitting, is, that much time is saved in having but one confinement; the sufferings from which, joined to the debilitating effects of the treatment sometimes required, are often such as materially to undermine the constitution of the patient. Moreover, when one eye has been unsuccessfully operated upon, the patient gets mistrustful, and is apt to be more irritable. When both eyes are operated upon together, we can scarcely fail to succeed at least in one, and all further anxiety is at an end.

ANÆMIA CURED BY PROTO-CARBONATE OF IRON.

To the Editor of the Medical Gazette.

Sir,

If you think the following case of sufficient interest for publication in the pages of your journal, I shall feel obliged by its insertion.—I am, sir,

Your obedient servant,

Edward Jay.

Davies's Street, Berkeley Square,
March 9th, 1839.

C. J., æt. 23, a young woman, of lymphatic temperament, slightly inclined to embonpoint, and with an hereditary predisposition to pulmonary disease, her mother and two sisters having fallen victims to phthisis; has been as long as she can remember the subject of bad health, which she ascribes to the fact of never having menstruated properly. Two years ago she was attacked with intermittent fever, and disease of the liver, both which diseases gave way under treatment, leaving, however, a state of debility, which has been increasing until it is arrived at its present alarming degree. There has been no appearance of catamenia for the last two years.

Present state.—The surface presents a general bloodless appearance, most striking on the conjunctival membrane, lips, and under the finger nails—in short, wherever there is usually more colour; expression of countenance heavy and oppressed; constant pain referred to the vertex, increased by stooping, unrelieved by lying down, and worse always in the morning.

Although the surface of the body is cold, and there is a general feeling of chilliness, some increase of temperature occurs in the palms of the hands towards evening, succeeded by a slight tendency to perspiration; great dyspnœa on making any exertion; œdema of the feet and ankles; constant dull pain between the shoulders and in the left hypocondrium. Restlessness at night, with disturbed sleep and frightful dreaming. Anorexia; tongue of a pale lilac hue; bowels costive; stools clay-coloured. Voice feeble; slight cough and trifling expectoration. No dulness on percussion beneath the clavicles. Respiratory murmur heard distinctly on both sides of the chest. Respirations frequent; action of the heart violent and frequent, and accompanied with a bellows sound. Pulse 90, and sharp.

For the relief of this condition she was recommended to take Ferri Carbon. in doses of 3ij. ter in die. This she continued for more than a month, but without any benefit, becoming in fact worse; she then was under the care of a physician of eminence, who gave her cascarilla with ammonia, and an aloetic pill at night. She persevered for some time without success, and it was resolved to give the iron in the following form; and as the anæmia might, perhaps, be connected with the remains of ague, quinine was added.

℞ Acid. Sulph. Dil. gtt. xlv.; Ferri Sulph. gr. ij.; Tr. Lavand. Co., Syr. Aurant. aa. ʒss.; Aquæ, ʒiss. M. ft. haust. ter in die, c. Pulv. Sodæ Carb. gr. x., et in impetu effervescent. sumend.

℞ Quininæ Sulph. gr. ij.; Con. Rosæ, q. s. M. ft. pil. i. ter in die sumenda.

Also, the bowels were slightly acted upon by a night-pill, containing small doses of blue pill and Pil. Aloes cum Myrrha.

Soon after commencing this treatment the patient rapidly improved; perhaps the change was as striking as can be ever effected by medical means. Some colour made its appearance on the surface; the headache was gone, the

appetite good, and exercise was no longer attended with dyspnœa. After continuing some time, every symptom was removed, and she declared herself better than she could ever remember to have been. The catamenia have not appeared, but the probability is that they will, as their non-appearance undoubtedly was the result of deficiency of material for their formation. The interest of the case appears to be, that when the sesquicarbonate of iron failed to effect a cure, the protocarbonate was at once successful. It is also a question, whether at the same time getting rid of any effects of malaria by quinine, and re-establishing the intestinal secretions, did not assist? At any rate, the result was striking and satisfactory.

ON THE NEW VACCINE VIRUS.

MR. ESTLIN'S THIRD LETTER.

To the Editor of the Medical Gazette.

SIR,

As I have received an answer from the Registrar of the National Vaccine Establishment, in reply to my application for them to use the fresh vaccine lymph *for the purpose of distributing it* free of expense to those medical men who wished to have it, I shall be glad of permission to insert another communication in the MEDICAL GAZETTE. My request is refused, and I am therefore preparing *a letter of resignation* of the office (rather an onerous one) of distributing lymph to all who apply for it. For the last six or seven months I have been constantly engaged in this business; and I cannot but hope that, eventually, I may be in some remote way instrumental towards procuring the permission to medical men of having vaccine lymph circulated *free of postage* from all quarters, as well as from the National Vaccine Establishment.

I know not what *your* sentiments are with respect to the proceedings of the National Vaccine Establishment: to me it appears a most *inefficient* institution, though provided with means, and with abundant information, to be exceedingly useful in promoting a proper investigation into all the difficulties which surround vaccination. Under its present regime, with its meagre, indefinite Annual Reports, it appears to me an *incubus* on the progress of vaccination in this country. I should be very glad, if it were in my power, to lend a helping hand in awaking this sleepy establishment, carefully, however, avoiding all allusions to, or reflections on, *individuals*. I know there are those of much influence in our profession in town, who, though unwilling, from various circumstances connected with the members of the Board, to take any ostensible part in finding fault, would be very glad to see a more efficient management pursued.

In the first volume of the MEDICAL GAZETTE is an editorial article which quite accords with my views: if such be yours, would not the present be a suitable time to renew such observations?

I doubt if there be any one subject of communication to the GAZETTE that meets with attention from *so many* readers as vaccination, and therefore it is that I feel less reluctance in being so frequent a correspondent upon it as has been the case latterly.

I purpose sending you a letter of four or five columns by the end of this week, or by Monday next, for insertion in the GAZETTE of Saturday week; and I have a communication from the Faculty of Medicine at Glasgow, in reference to the new virus, and containing some valuable observations on vaccination, which I think you would be glad to publish on the following week. I must, however, write to Glasgow for permission to make this use of it, and hope to forward it to you for insertion in the number for next Saturday fortnight.

I am, sir,
Your obedient servant,
J. B. ESTLIN.

Bristol, April 16, 1839.

FOURTH LETTER.

SIR,

HAVING received a letter from the Registrar of National Vaccine Establishment, in reply to my request that the stock of vaccine virus procured from the cow in August last might be kept at that institution, in order to supply those professional gentlemen who wished to make trial of it, I must trouble you with one communication more, probably a final one, in reference to this virus.

It vill be in the remembrance of such

of your readers as have taken an interest in the subject, that in consequence of the numerous applications made to me for the new lymph, more numerous than probably I could continue to comply with, I wrote to the National Vaccine Board, requesting their aid in supplying the demands of the profession. My letter was dated November 23, 1838; and on the 14th of December, by desire of the Registrar, I sent several charges of lymph to be employed in establishing the new supply. On the 23d of January, 1839, an additional quantity was requested by the Board, which I also forwarded. On the 3d of this month (April) I received a communication from the Registrar, from which the following statement, being all that relates to this subject, is extracted:—

"I have the pleasure to inform you that we have duly tried the lymph which you were so kind as to send us, and that in four cases out of five we have succeeded in producing the true vaccine disease, and which in no respect appears to differ from that we daily witness from the employment of the lymph of this establishment. In two instances, however, the lymph taken from the above successful cases did not reproduce perfect vesicles; they were small, and without areolæ. I am instructed to add, that under the present circumstances the Board are not disposed to entertain any preference for your lymph, or would feel justified in substituting it in lieu of that which they are in the constant habit of using, and of which, consequently, they have a most extensive and satisfactory experience."

The reference to the new lymph is concluded by the following extract from the letter of Plymouth correspondent to the Board, dated March 9, 1839:—

"Mr. Estling's vaccine has been introduced here, and I have used it in two cases, but am not satisfied with it, and intend vaccinating with the true virus: many of the practitioners here have the same opinion of the Estling vaccine *."

That the new lymph should supplant the stock previously in use, I neither asked nor wished; but considering how great the demand for it had been, and regarding the National Vaccine Esablishment as one intended to promote, in all rational ways, investigation into the subject of vaccination, it appeared to me not unreasonable to hope—I thought, indeed, that the profession had a right to expect—that the Board would employ the facility it possesses for extensive vaccination, and the privilege accorded to it by government, of receiving letters and sending lymph, free of postage, to meet the wish widely felt by medical men, and lend its aid to the experimental employment of a fresh supply of virus from the cow.

In this hope I have been disappointed; and if the grounds of the refusal are satisfactory to the profession generally, I have no right to complain.

I am, however, now desirous of considering myself released from the offer I made seven months ago, to furnish the new lymph to any professional man connected with an institution for gratuitous vaccination that applied for it. That offer has been extensively embraced, and I have sent supplies to Bangor, Barbadoes, Bath, Berwick-upon-Tweed, Birmingham, Bridport, Bridgend, Bridgewater, Cambridge, Chepstow, Douglas, Droitwich, Dublin, Exeter, Falmouth, Glasgow, Gloucester, Hull, Ilfracombe, Ilminster, Kidderminster, Langport, Liverpool, London, Malvern, Manchester, Maxstock, Nevis, Newport, Oxford, Plymouth, Plympton, Retford, Sidmouth, South Petherton, Stroud, St. Vincent, Somerton, Swansea, Stafford, Thirsk, Warrington, Warminster, Wincanton, Winchester, Worcester, York, and to numerous other towns and villages; besides to America, France, Switzerland, Portugal, and Madeira.

Having thus testified my desire to promote the interests of vaccination, and being denied that aid from the New Vaccine Establishment which I thought I might calculate upon, I feel myself

* As the Registrar has seen fit to send me such an extract from the correspondence of the National Vaccine Board, perhaps I may be excused for giving a quotation from one of *my* correspondents—the surgeon of two extensive medical charities, in one of our most populous towns, who vaccinated not *two*, but *two hundred* children, between January 28th and April 8th. He says, "Notwithstanding the *wise* letter of the Vaccine Board, with Sir H. Halford's signature attached to it, about twenty to thirty medical men have now received the new virus, and the old stock at the Dispensary here is now obsolete. To-morrow the Hospital will receive the new matter, so that soon, all round this populous district, none but the new matter will be in existence; the hospital and dispensary being the only two places where vaccine inoculation is publicly done, from whence it is distributed to all the medical men around.'

entitled to retire from an office, which, though productive of much interesting correspondence, has not been unattended with trouble or expense. It is, I presume, unnecessary for me to add, that I have had no interest in the employment of the new lymph distinct from that of the profession and the public. I have declined all vaccinations but gratuitous ones (excepting in the families where I am the regular attendant), and I have freely given the matter to all who have applied for it.

In my former letters I have avoided giving any decided opinion with regard to the new lymph, and have withheld nothing that was unfavourable to it. I have been anxious to state the facts I had remarked, to induce others to make their own observations, and to have the experiments extensively made before any inference was drawn.

But having watched the virus through twenty-nine subjects successively (nearly one every week since the matter was procured from the cow), I have now no hesitation in stating that I consider it a valuable supply of virus, more energetic in its local and constitutional effects, and more inclined to produce vesicles resembling what cow-pox was many years ago, than that employed by the National Vaccine Establishment. It is so much estimated in this city, that I believe there is no other in use; and, as an institution has been established here, to be devoted solely to vaccination, we hope to be able to keep up the new stock.

What is the general opinion among the practitioners who have employed it in the numerous places to which it has been sent, I have had little means of ascertaining. I trust they will not withhold their views from the public. I presume, from the quotation sent me from the Plymouth correspondent of the National Vaccine Establishment, the Registrar considers the experience in the two cases referred to, and the opinion expressed by the writer, as evidence *against* the genuineness of the lymph: your readers must form their own judgment on this point. It is not impossible that even from Plymouth some opposing evidence may appear; and perhaps I may be allowed to adduce, as testimony of at least equal value, a published Report of the Chorlton-upon-Medlock Dispensary, Manchester, in which the decline in the activity of the former virus is spoken of as having "been long felt by the medical practitioner," and the new lymph is described as "a present of no ordinary value; and, since writing the above, I have received a Report of the committee of the Vaccine Institution connected with the Faculty of Medicine in Glasgow, specially made in reference to the new virus, minutely detailing its effects, and designating it as "a great boon to the public and the profession." This document contains some most judicious observations upon vaccination.

Whether it be dependent upon a more cautious mode of vaccinating (the introduction of only a very small quantity of lymph into never more than two points of insertion), or upon any alteration in the lymph, violent local irritation and cutaneous eruptions less frequently accompany the progress of the vesicle at present than was the case six months ago; but the character of the vesicle is most satisfactory. On the eighth day it may be compared in form to a minute coil of inflated intestine: it has a pearly hue, with scarcely a line's extent of redness at its base—often none at all: it is solid to the touch; freely yields pellucid lymph when punctured in the centre; and is so little affected by the escape of its fluid contents, that I have charged thirty points from a single vesicle without any perceptible change in its size or shape. On the ninth or tenth day the areola comes on. Sometimes the crust projects from the skin on the subsidence of the areola on the fourteenth or fifteenth day, and falls off in about a week more: in many cases, however, it becomes rather indented towards the fifteenth day, very like an eschar made with caustic potass, and accompanied by a secondary attack of surrounding inflammation, of a more diffused character than the original areola; the crust is then separated, leaving a small but deep ulcer, that heals in a few days. And here I would express my surprise, that in the Report sent from the National Vaccine Establishment, the new lymph is spoken of as producing a disease "which in no respect appears to differ" from that which is daily witnessed from the use of the lymph usually employed there.

Most extraordinary, I am certain, will this statement appear to very many practitioners who have used the virus; and limited, indeed, must be the expe-

riments made with it for such a conclusion to be formed. Perhaps, however, the opinion of the Board is founded upon no more than the seven cases referred to in the letter of the Registrar, and the two cases from Plymouth. Very different is the experience with the new virus in this city. The only objection to it I hear of here is, its being much more active than the old lymph; and there are practitioners in other places who, from this cause, have thought it prudent to suspend the employment of it.

How far the introduction of a fresh stock of virus from the cow will have any influence in renewing the protecting power of cow-pox — which, of late years, it seems in some degree to have lost—I have not presumed to offer an opinion. It appears to me that one, and not an unimportant, step is gained, if this recurrence to the original source have procured a virus more energetic in its course, capable of retaining its infecting properties for a longer time, and producing a vesicle more resembling that which was seen twenty years ago, than the lymph in common use.

That the new virus possesses these points of superiority I have no doubt; and though I have before commented upon the late Report of the National Vaccine Board, I cannot conclude this letter without repeating my regret that, in the present unsettled state of medical opinion upon vaccination, and under the failing confidence of the public in its protecting efficacy, the members of that establishment, with no better reason than an apprehension that the inexperienced might make mistakes, and with no evidence whatever to justify their opinion, should pronounce the recurrence to the cow for fresh lymph as an undesirable measure; and yet, while deprecating this application to the original source of the disease, and while extolling the purity of the lymph used at the establishment, maintaining that it is a direct succession of that originally introduced by Dr. Jenner, the Report declares that the stores of the establishment have been occasionally recruited "with fresh matter from the cow!"

It is affirmed in this document, with the view of proving that cow-pox does not deteriorate, that "it is not in the nature of any other communicable virus to degenerate and lose its influence." I would ask, is there any person long accustomed to vaccinate, who cannot testify from his own experience that there is a constant tendency in the vaccine disease to degenerate; that different constitutions so modify it, that, if care be not taken in the selection of the lymph for continued inoculations, it will become so weakened by passing through peculiar constitutions, as at length to be effete? The caution given in the Report is an implied admission of this fact.

Is it not also tolerably well ascertained, that, by a constant selection of the mildest cases for furnishing virus, inoculation for small-pox may be rendered comparatively safe? and that, at the time of the introduction of vaccination, this virulent morbid poison had been, in the opinion of some, so modified by successive inoculations, as to produce pustules for which the name of pearl-pox was proposed?

The want of care and accuracy in statistical detail in the Report, which has given an age of 19,000 years to the lymph employed at the establishment, has been commented on by others as well as my myself*, and, I have no doubt, will obtain much more notice when the document is perused by our continental neighbours.

Nor is it to the late Report alone that much may be objected. Considering the mass of information which the correspondence of the Board must have accumulated, it is impossible to read the Reports of former years without being struck with their meagreness. No statistics are given—no experiments detailed—no measures suggested either for the enforcement of vaccination, or the prohibition of small-pox inoculation. It does not, indeed, require much reflection to perceive that, however well intended the labours of that establishment may be, we must look to other quarters for that amount of observation, that statistical accuracy, and that general energy, which, in the present condition of the discovery of the immortal Jenner, the wants of the profession and the public demand.

It is much to be desired, that Government would allow the transmission of vaccine lymph from all quarters free of postage. Were this privilege extended

* See Lancet, March 9, 1839.

only to the Small-Pox Hospital, and the Royal Jennerian Institution, in London, instead of being confined to the National Vaccine Establishment, the provinces would probably be often supplied with more efficient virus.

To those who prefer the new lymph, I would suggest, as there is no chance of their being supplied with it from London, that when a fine vesicle presents itself, two or three dozen of ivory points be thoroughly charged, and preserved in a dry, well-corked phial for future use. From the experience I have had, I have no hesitation in saying, that the virus will thus retain its infecting properties for several weeks.

I cannot conclude these letters without acknowledging the valuable information I have derived from the extensive correspondence in which I have been engaged, as well as the gratification I have felt at the favourable manner in which my humble efforts to serve the cause of vaccination have been appreciated: my professional brethren may be assured that I will not neglect any future opportunity that may occur of procuring information upon this subject that may be either useful or interesting, and with thanks for the promptitude with which you have been pleased to insert my communications,

I remain, sir,
Your obedient servant,
J. B. Estlin.

Bristol, April 20th, 1839.

PARISIAN MEDICAL SKETCHES.

No. I.—Sœurs de la Charité.

What can I say good enough of you, ye good sisters of charity! Rather than write commonplace encomiums on virtue like yours, I would be silent altogether; yet how can I be silent who have been so often moved by your steady enthusiasm, and by the almost daily exhibition of some act of virtue, of which your whole lives are but the history! Ye unpaid nurses of sorrow and of sickness, whose only supports and comforters ye are—who, in the midst of "all the sad variety of woe," when all medication fails, and life is fast ebbing away, still abide by the dying, and, when all is over, can go from the dead man's couch undismayed, to smile with a renewed interest on him who is recovering—ye who practise unheard-of self-denial—who never answer the coarse coarsely, or offend the peevish! I have seen ye for years, in many a trying strait, the peace-maker between the refractory patient and the not always reasonable doctor. Come into the ward St. Laurent with me. If you ask why this ward particularly, I will tell you. It is the most revolting ward at St. Louis, and St. Louis is the least enticing of hospitals. Internal disease may to the patient perhaps be even more awful in results or fears of results, but to the mere spectator disease can never manifest itself more shockingly than when its ravages are on the surface of the body. No, you will not enter that low-roofed, spattered, and bemired apartment, of which the very look from the doorway terrifies. Why should you breathe that rank, close air, heavy with the smell of sores, of salves, and of sulphur? Why should you penetrate those foul recesses, and pass from bed to bed amidst yon crowd of half-naked ruffians, steeped in abominations of all sorts—youths who speak but to imprecate, and *blasés* old villains, offensive to every sense? To witness, but for once, such a mixture of fierceness and of filth, of misery united to mischief, you will not, even for curiosity's sake, pass under those low arches; and you are right: mere curiosity must turn away her head, sick, and unable to proceed. Yet, in the midst of all this, which you see from the door that I have opened, behold, and with reverence, one of those modest "sœurs" in her clean white and black head-gear, ministering with her soft womanly hands to that unsightly crew, or quietly knitting or sewing—for she never permits herself to be unemployed. "Aussi, ce n'est pas par intérêt que nous le faisons," said she to me the other day, smiling in sweet complacency at my unreserved communication of my feelings; which words, I remember, were scarcely out of her mouth, when a refractory young *galeux*, who had been repeatedly admonished, that, if he did not conduct himself better, he would be sent away from the hospital, was summoned to appear before the physician; having listened with impatience to whose reprimand, the monster replied, with great vehemence, and with knit vindictive brow, "C'est la haine

qui fait que la sœur s'est plain de moi!" The sister said nothing, but bent her eyes on the ground; for ourselves, we could, even at the chance of catching his disorder, have felled the young recreant with a blow; but the physician's words settled, in a most eloquent manner, this vindictive attack. "Silence, sirrah! and for shame." "Ici on ne reconnait que bienveillance et misericorde!"—out with his name—"rayez son nom!—exeat." Dr. Cazenove was that physician.

Nor are the amiable sœurs' duties confined to such as, it is to be hoped, generally appreciate their inestimable support! What though they have never been mothers — go to the Hôpital Jesus, filled with sick babies and scrofulous childhood, and say there if it be possible for even maternal στοργη to be more adequately represented. The sick child is a heavy burthen to the fondest parents. We love to play with our brats, which requires them to be well; and more than playthings, till there be some exchange of mind—some companionship—they cannot be. Instinct attaches, and pride is gratified where grace or comeliness qualifies its object: but the sœur looks throughout upon these poor children in a widely different light. With her these hapless little creatures are sacred deposits, of whose souls and bodies alike she considers herself to have become the temporary guardian; and whether it be to flourish on earth, or to be forthwith transplanted into heaven, her tender culture of the young plant is still the same. Any morning between nine and ten, if you ask for the "salle des teigneux," you will find, as I have done, a semicircle of little urchins from seven years up to fourteen, all in their white night-caps, and all but one, who is the biggest, sitting under her presidency to pick lint: he is standing, to read aloud for the benefit of the younger community, while the kind "sister of charity" sits by correcting his blunders; and so intent are the little folk at once on their rag picking and the story, that you may generally approach quite close to them before you are perceived: then, perhaps, an immediate stir takes place; the reader puts his book down disconcertedly, and his kind prompter rises to meet you. Do not now be afraid of putting her out, or scrupulous not to ask her too many questions. The only compliment you can pay a sœur is to take an interest in what most interests her—doing good. If, in shewing you her young charges, she does not use periphrasis—if she speak the naked truth sometimes too plainly for your habits—remember the sœur is no fine lady; hers is only the refinement of mind, which religion can alone confer; she knows nothing of conventional phrases. If she conduct you to a poor little thing, frightfully emaciated, whose tense abdomen is blown out like a balloon, and whose attenuated members look rather like a roll of Herculanean papyrus than human skin; and if she quietly state, in his hearing, that he has been given up and will not live many days, be not shocked without necessity, for the little unconscious creature has none of your fears of dying; he hears the announcement without anxiety or even interest, and asks "sa bonne sœur," with a ghastly effort at a smile, to give him a little drink!—But I am becoming garrulous, and had nearly forgotten, in the society of the good sœurs, that I had a reader, perhaps a fastidious one.

No. II.—Doctors.

If it be true that troopers are extraordinary liars, M.—— would deserve to be their captain. When he chances to be in a good lying humour, it is extremely difficult to keep pace with him. His romances are as long as Scudery's, and much more diverting. I never knew a man so at home in the absurd or the impossible as M. ——. I have seen him at his hospital at 9 A.M., and he has already seen a hundred patients and been three times round Paris.

Some men are great talkers upon one favourite subject, — he is equally voluble upon all. I have heard him, in the brief space of ten minutes, touch upon literature and lepra, and descant on politics and prurigo. He is addicted—

> "To raising questions dark and nice,
> To solve 'em after in a trice;
> As if Philosophy had catch'd
> The itch, on purpose to be scratch'd."

"Now, gentlemen," he would say, when the visit was over, and he was in the act of untying his apron-strings, "now what would you do in such a case as the following?" — and then he would give one in which a conjuror's, not a doctor's, services seemed

wanted: such a case, however, had only just happened to him, and was already doing well. The patient was generally an Englishman, "grand bel homme (fort distingué du reste)," whose name he was not permitted to mention. Of what he told us while he was washing his hands and we were looking for our hats, the following is a *souvenir* :—"Ecoutez!"—we turned our heads; "I am going to put a case to you—or, stay, I may as well tell you the case, as it occurred to me some weeks ago. An Englishman had an angry discussion with his wife; he determined, therefore, to commit suicide, and divided his throat from ear to ear with a razor. I was called in. I never saw any thing so frightful in my life: blood was pouring from an immense gaping wound all round the neck; besides which he had lost a *mer de sang* before I saw him! Having satisfied myself as to the case of this rash act, I requested my patient (as I saw no time could be lost) to let me stay the bleeding. 'Sir,' replied the man (whose throat was cut from ear to ear), 'I am weary of life (le *tædium vitæ* des Anglais)—let me die.' But having lectured him upon the impropriety of his conduct, and having represented to him 'sa position, ses devoirs,' &c. he at length consented to my saving him; adding, however, that the attempt was quite futile—that I might spare myself the useless trouble—that he had cut his throat too deep, and that nothing could now succeed." The philosophy of Seneca in the bath was a joke to the *sang froid* of our distinguished countryman. "What did you do, sir?" "Il n'y avait rien de plus simple. I contented myself, having drawn down his head, with keeping the divided surfaces together by a few simple stitches; requesting him to repose, and not upon any account to turn his head. He complied with my request, and at the end of five days I had the pleasure of meeting him on foot, on the Boulevard Italien." "The treatment was very simple," said the youthful clerk. "Yes, when you know it," said the other: "but, gentlemen, allow me to put to you a less serious case, and see how you could extricate yourselves under the following circumstances:—Suppose yourselves, any of you, summoned to a great lady, living in a great house at the fashionable quarter of Paris. She is extremely sensitive and impressionable; she has snapt a needle in her finger, which lies at some depth from the surface, between it and the nail. I know what you will say—'I would get a pair of English tweezers,' *bien fines*, 'and try to draw it out; or if too low, I would make a little incision, and then use the tweezers.' Ah, no! at least that is not what I did. Guess again. Come, I'll tell you what you would have done on reflection, and it is just what I did: I ordered a basin of warm water, and made the lady soak her hand in it till the nail began to soften; then I took a very fine penknife, and paring away layer after layer of the horn, it became at last as thin as silver paper. Then I made an easy aperture through its side, right over the needle, which I now drew out without the least difficulty, and without giving the lady any pain, which was what I particularly desired to avoid. Tenez, voilà encore un cas lequel s'est presenté depuis peu." This was the case of a fish-hook which had penetrated deeply into the hand;—but I did not stay to hear whether it was of English or Irish manufacture, of the Limerick or Kirby bend; nor whether nor how it was extracted.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Lectures on Diseases of the Eye. By JOHN MORGAN, F.L.S. 8vo. pp. 221.

THE object of this work is to describe the more common and important diseases of the eye, with their treatment; and to illustrate the analogy between these maladies and those of other parts of the body.

Mr. Morgan first treats of diseases of the conjunctiva, under which head we find catarrhal ophthalmia; aphthous, or pustular inflammation of the conjunctiva: variolous ophthalmia; purulent ophthalmia in infants; purulent ophthalmia in adults; strumous inflammation of the conjunctiva; pterygium; staphyloma racemosum; chemosis of the conjunctiva; and granular conjunctiva.

The second division is on diseases of the cornea, and contains inflammation of the cornea; nebulous cornea; ulcera-

tion of the cornea; conical cornea; abscess of the cornea; and staphyloma of the cornea. We next come to morbid affections of the iris, under which we find prolapsus of the iris; common inflammation of the iris, or iritis syphilitic iritis; and arthritic iritis.

Under diseases of the sclerotic are to be found inflammation of the sclerotic; staphyloma of the sclerotic; choroiditis; hydrophthalmia; atrophia oculi; and synchisis [synchysis].

The next division is on diseases of the retina, under which we find inflammation of the retina, and paralysis of the retina, or amaurosis.

Next comes a chapter on cataract; and then one on malignant diseases of the eye, namely, melanosis and fungus hæmatodes, with an accouut of the operation for removing the globe.

There is then a chapter on operations, containing those for cataract, by extraction, depression, and solution; with the one for forming an artificial pupil. The work concludes with an account of entropeon, ectropeon, and the morbid affections of the lacrymal conduits.

The following observations will be useful to many practitioners as well as students:—

"It may appear absurd to suppose that any medical man in his senses would throw a stimulating injection into the eye, as a preparatory step to separating the lids, and obtaining in that way a view of the inflamed globe. Yet many are producing now and then the very same effect as that which would result from such a proceeding by different means.

This effect is occasioned by the manner in which many a novice is in the habit of opening an inflamed eye. I speak of what I am not unfrequently witnessing in my practice; and as I know how few of you are acquainted with the proper mode of examining an inflamed eye, I shall take this opportunity of giving you a few directions upon the subject. There are three different ways of opening the eyelids, represented in Plate 18, figs. 1, 2, 3; and although each of the diagrams is a caricature, I do not hesitate to say that many who see them would, if asked, mistake the right way for the wrong, or *vice versâ*.

The usual mode in which a bungler makes the attempt is represented in fig. 1. Each thumb is placed on the margin of the tarsal cartilages—pressure is made down upon the globe—the orbicularis contracts powerfully from sympathy—and thus the conjunctiva of the lids and of the globe are rubbed together as the lids are slid over the anterior part of the latter. The natural consequence of this mode of proceeding must be obvious; when two inflamed membranes are rubbed and pressed together, of course the diseased action will be increased; and, consequently, when a successful effort has enabled the operator to draw asunder the lids in the manner I have now described, it is found that the vascularity of the part is very greatly increased from irritation produced by previous pressure and friction.

This, then, is the most common mode of opening an inflamed eye improperly, and the consequences are always as I have stated.

The next diagram (fig. 2) represents a less common, though at the same time a far more injurious mode of making the examination. It consists in the process of insinuating elongated finger nails between the lid and the globe, and thus clawing the inflamed surfaces asunder. That such an operation must necessarily tend not only to produce a temporary excitement, but also a permanent increase of inflammatory action in the part, will not be doubted. Yet I know from experience that this operation is practised too frequently to be passed over in silence upon the present occasion. Look at these two diagrams, and see whether before you are twelve months older you do not observe an illustration of the error here represented.

Having now shown you the consequences of an unskilful attempt to open an inflamed and swollen eye, I will next describe to you the proper mode of performing this very simple operation. Your object will be to *separate* the inflamed surfaces of the conjunctiva of the lids and globe at the time you are opening the eye, and to avoid making any pressure upon the part; this will be easily accomplished, unless excessive tumefaction of that part be an obstacle, by gently drawing the integuments of the lower lid downwards towards the cheek with the point of the fore-finger of one hand,

and with the thumb or fore-finger of the other, drawing the skin covering the upper lid upwards towards the supra-orbitor ridge: the diagram (fig. 3) represents what I have described. Be careful in opening an eye to avoid throwing a strong light on the part, as it sometimes renders the operation difficult, from the spasmodic contraction of the orbicularis palpebrarum, and in cases where the retina has been rendered morbidly irritable, a temporary increase of vascularity will generally be the consequence." (pp. 24—6).

On the whole, these lectures are sensible and judicious, and though chiefly intended for the use of Mr. Morgan's pupils, will be consulted by other persons also. The plates, of which there are eighteen, drawn on zinc by Canton, add much to the value of the work.

Wiesbaden als heilsamer Aufenthaltsort für Schwache und Kranke aus dem Norden Europa's, und als Kurort für jede Jahreszeit, mit besonderer Bezugnahme auf die Zulässigkeit des Gebrauchs von Winterkuren, dargestellt. Von Gustav. Heinrich Richter, Doctor der Medicin und Chirurgie, praktischem Arzte und Wundarzte zu Wiesbaden, &c. Elberfeld, 1839.

Wiesbaden considered as a Residence for Invalids and Patients from the North of Europe, and as a Watering-place for every Season of the Year, &c. By G. H. Richter, M.D. Elberfeld, 1839. 8vo. pp. 94.

This little work is divided into four chapters. In the first one Dr. Richter examines the claims of Pau, Montpellier, Aix, Marseilles, Nice, Genoa, Florence, Rome, Naples, and other celebrated spots, to be considered as places of refuge for invalids, especially pulmonary ones; and shews that no one of these towns is free from some capital defect. In this division of his book our author chiefly follows Sir James Clark. In the second chapter he asserts that Wiesbaden is an excellent asylum for patients in winter and spring, from the extreme mildness of the temperature. At one o'clock in a March afternoon, the thermometer in the shade sometimes stands at from 63½° to 68° of Fahrenheit; while in April it has several times risen to 65¾°, and up to 77°; in May, from 83¾° up to 90½°. In summer it rises to 95° or even to 99½°—a painful temperature, which occurs, however, rather in the old town, near the hot springs, than among the new buildings.

In September and October the sky is often beautifully clear, with the thermometer ranging from 65¾° to 72½°, and even 86°, of Fahrenheit; so that many patients are induced to prolong their stay, and even look out for a winter residence. Among the southern trees which grow around Wiesbaden, are to be found the Amygdalus communis, Platanus occidentalis, Liriodendron tulipifera, Bignonia Catalba, and Ficus Carica; while the walnut and the Spanish chesnut form whole alleys and small woods. All these trees, however, are pretty common, we believe, in the south of England, without even going to Devonshire for examples; and in that favoured county the myrtle and some other plants stand the winter, which do not appear in the Wiesbaden list.

Among the foreign plants which have become naturalized, and now grow wild, are to be found the Angelica archangelica, Arenaria saxatilis, Adonis vernalis, Alyssum campestre, Draba muralis, Gentiana asclepiadea and bavarica, Ligusticum levisticum, Nymphæa minima, Stellaria nemorum, Valeriana Phu, &c. &c.

The oldest persons in Wiesbaden, many of whom are upwards of 80, and some have attained the age of 90, do not recollect the prevalence of any destructive disease. There are no endemics, and the ordinary epidemics, such as measles and scarlatina, are neither malignant in type, nor long in duration. Inflammatory diseases are seldom acute, and intermittent fevers are seen at Wiesbaden only when they have been brought there. Many a Dutchman owes the final cure of his ague (which is an endemic distemper in his country) to the climate of Wiesbaden.

The amusements of the *Kursaal*, or pump-room, during the summer, are music and dancing, and, unfortunately, gaming also; which, as an English writer observes, in his "Wiesbaden recommended to the Gouty and Rheumatic," does not mix well in the waters.

The theatre is open four times a week during the season, and twice a week in the winter.

There are two reading-rooms, where German, Dutch, French, and English newspapers are to be found, "saving only the leading journals supporting the government of her Majesty the Queen of England. The *Morning Chronicle* is prohibited."—(Wiesbaden recommended, &c. p. 15.)

The third and fourth chapters we must dismiss very briefly.

Patients who come to Wiesbaden in the spring, besides the warm baths, can have the advantage of the fresh juices of plants, which form, says our author, what is called the spring course; being added, we suppose, to the baths. Among the patients for whom bathing at this season is peculiarly advantageous, are those for whom we may anticipate an after-treatment will be requisite—such as a course of chalybeate water, or river or sea-bathing, or a *Traubenkur* (course of grapes)—*i. e.* a diet restricted to grapes and bread.

A great advantage at Wiesbaden, as well as many other German watering-places, is, that the baths are in the hotels, so that the patient is scarcely liable to take cold in his transit to and from.

On the whole, Dr. Richter's book will afford very useful information both to physicians and invalids, especially by the discrimination he shews in setting forth the classes of disease for which the various seasons of the year are severally most fit; and though the medium through which he views every thing is tinged of too deep a rose-colour, yet this excess of good humour must be excused in a physician resident on the spot; it does not go against the grain, says Aristotle, to praise the Athenians at Athens.

If we might venture to give a hint to Dr. Richter, we could direct his attention to that passage in the pamphlet of the gouty layman, where he complains that the Wiesbaden physicians do not speak English; British fees are no bad things, a guinea being equal to about 12 florins and 36 kreutzers of Nassau money.

MEDICAL GAZETTE.

Saturday, April 27, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

EXPERIMENTS ON LIVING ANIMALS.

OUR readers will remember that some time since we alluded to this subject, with a view to shew how far it was justifiable for any member of our profession to inflict pain upon animals, and under what circumstances he might be deemed to have incurred moral guilt by this method of pursuing the investigation of his science. Since that time, a member of the Society for the Prevention of Cruelty to Animals has offered a prize of £100 for the best treatise on the subject; and amongst the works sent in in competition, two (at least) have since been published—one by the successful candidate, a Dr. Styles—the other by the well-known and respected veterinarian, Mr. Youatt. With these works before us, we are induced again to recur to the subject, that we may endeavour to clear the character of our profession from much of the obloquy which has been cast upon it, and to free it from at least that part of the general odium which it in no degree deserves.

Nothing could more clearly shew than the simultaneous appearance of these works, how vague are the principles on which the accusation of *cruelty* is charged against men. For what is cruelty? Dr. Styles, who seems a man of good but unrestrained feeling, says (p. 22)—"Cruelty, whether it be for gain or amusement, for the gratification of appetite, the promotion of science, or even the sustenance of human life, is the UNNECESSARY infliction of pain." But this is just no definition at all; for the word *unnecessary*, as here used, is itself entirely indefinite. If he means

that no pain is to be inflicted for any of the good purposes enumerated, except that which is *absolutely necessary*, he would confine all men to the food that they could obtain from the larger animals and from vegetables, and many to vegetables alone, because animal food, or at least that food which incurs the slaughter of many and small animals, is not *absolutely necessary* to the sustenance of human life. The slaughter of one ox, for example, would afford as abundant and wholesome food for 100 men as the slaughter of 100 head of game or small poultry; therefore, under this interpretation of cruelty, that food only could justifiably be eaten, for the supply of which the smallest possible number of lives is sacrificed; and, except perhaps, for some invalids, the only animals it would be fair to slaughter in this country would be the ox and horse. Of course, the warmest members of the Society do not hold such a creed as this; but it is clear that this is what Dr. Styles' and their definition fairly and directly leads to.

If, on the other hand, *necessary* means not that which is absolutely indispensable, its meaning must be decided by the sense in which, on this subject, it is commonly received: in other words, *necessary* must here be taken as synonymous with *justifiable*, and its precise meaning will vary with the varying feelings and opinions of the public. In this view Mr. Youatt writes of cruelty, and regards as justifiable many practices (as hunting, fishing, and shooting) on which Dr. Styles pours some of his loudest anathemas. Such is the uncertainty of the very foundation and subject of all arguments on cruelty. In the abstract definition of one party, the prohibition of cruelty to animals would incur the loss of a vast while the majority of the articles of our food more loose meaning of the other party would permit many practices which the feelings of good men would regard with disgust. It is not our province to decide the meaning of the word, or to enumerate what practices are or are not necessary or justifiable; but it will be sufficient if we can shew that those who, *under certain restrictions*, perform experiments on living animals, are as fully and as fairly innocent of cruelty as many of those who are most distinguished for their humanity; and we will endeavour to prove this in any sense in which the word can be fairly understood.

The whole tone of Mr. Youatt's book indicated the kindest feelings, and the most earnest anxiety, by every fair means, to alleviate the sufferings of every living creature; and his constant and active exertions for their good, claim for him the just title of their best benefactor. Yet he, who might be regarded as a model of humanity, not only permits, but sanctions by his presence, and encourages with the heartiest and most glowing praises, the practice of hunting. Now it is in vain to deny that this pursuit is the cause of the infliction of severe pain and death to animals, for the amusement of men. It is said, "we have a right to the flesh of the inferior animals as food;" hares are food, and therefore we hunt the hares and kill them. And all this might be true if the men who hunted wanted the hares, or ate them when caught; but the very reverse is the case: one hare is no sooner killed than the hunters rush away in pursuit of another, and leave the victim. Nay, it is thought almost essential to the good character of a sportsman, that he should *not* eat the game which he has himself taken. When, therefore, his privilege of hunting is questioned, he can have no right to

shield himself behind the necessity of killing animals for food, because those who hunt neither want nor eat the game; nor if they did, would it be necessary to engage a field of fifty or more horsemen, and a pack of dogs, to take it.

But is is useless to argue such a point: however special pleading may obscure or pervert it, the fact, which every honest hunter will allow, is, that he pursues his game for the pleasure which its pursuit affords him, and that for his pleasure he does not hesitate to put an animal to pain or death. And far be it from us to say that such pursuits are unjustifiable, or even degrading, to those who follow them; only let their end be distinctly understood—that it is for the immediate gratification of men, and not to supply their bodily or pecuniary wants.

"As for the fox, he is legitimate prey," says Mr. Youatt; "he is a felon by nature." True; but it is not for that reason he is hunted, but rather for his speed and good wind, his cunning and his courage: but for these, men would have left him to boys to be exterminated. Indeed, but for hunting, foxes would have been put an end to long ago, for they now exist only where they are wanted for sport; and in a neighbourhood where no hounds are kept, the villages can soon rid themselves of these "felons by nature." In the same way badgers are altogether exterminated, where they are not wanted for baiting; and thus, if an argument were needed to justify a humane man in these pursuits, it might be shewn that the best mode of increasing the total amount of life, and thereby of enjoyment, to animals, would be to make them, when full grown, the object of men's pursuit, and to prevent them from being destroyed while young. We recommend this, though it may be rather sophistical, to the notice of humane hunters. But for hunting, many animals would not be wanted, and they would therefore be soon exterminated; *ergo*, hunting is in the end the most humane proceeding towards the animals themselves, whose lives and generations are prolonged for its sake. But to return:—In this and in every other case of the kind, the main motive that induces men to hunt is the pleasure that it gives them—a pleasure which nearly all men enjoy; as Mr. Youatt says, "the mild and the sedate, the benevolent and the reckless, can scarcely find language sufficiently expressive to tell of the pleasure which they feel."

Man's pleasure, then, is a sufficient motive for permitting and encouraging the infliction of pain and death to animals. A thousand instances could be quoted in which the kindest and most benevolent men have practically admitted this, in their love for the turf, the field, the angle, and the gun; and the man must be mentally or bodily deficient who cannot enjoy any of these pursuits, or who is insensible to the invigorating delights which they afford. On the same ground, then, experiments on living animals may, *under certain restrictions*, be as fairly justified. Will any one deny that there is intense pleasure in the pursuit and possession of truth? What though the facts ascertained by pain are not capable at once of being turned to practical good; is not truth for its own sake desirable? Compare the two pursuits: the justified and sanctioned hunter or angler inflicts pain and death for his own most intense pleasure; his pleasure gratified, the sport is left, and all is forgotten; no benefit results to himself or to his fellow men. The vivisector for his most intense pleasure also inflicts pain and death; but the *truth*, which is the object of his sport, is permanent, and affords an equal pleasure, and per-

haps vital advantages to thousands of his fellow-men. And—for the pursuits themselves—which is most worthy of the rational and intellectual men—the pursuit of truth, or that of foxes? Mr. Youatt adds to his grounds for justifying hunting, that the horses and dogs themselves delight in it. "There never was a biped who entered so thoroughly, heart and soul, into the joys of the chase, as does the horse;" and is it not enough to shew that it is not the most worthy pursuit of men, that it should be the chief pleasure of horses and dogs? The most exalted men are those in whom the qualities which they possess in common with animals are least prominent, and best restrained; and the object which offers equal pleasure to men and brutes can therefore be scarcely regarded as a worthy aim for the exertions of the former.

It is clear, then, that if with ninety-nine hundredths of the world we admit that it is justifiable to obtain a great pleasure by the infliction of some pain on an inferior animal, experiments on living animals may, on this ground, be as justifiable as hunting, shooting, or fishing, when not followed for the maintenance or necessary comforts of life. In the same way we might show that they are not less justifiable than the pursuit of most branches of natural history—ornithology, entomology, conchology, and many more; all followed with the infliction of pain and death to thousands, and their only object the gratification of mankind in the possession of truth, and their occasional benefit by the discovery of useful materials or principles. In short, if we look around us, there is scarcely a pleasure, a luxury, or even such a comfort as we call *necessary*, that is obtained without the suffering of our fellow-creatures. At present we do not intend to prove more, for it will be sufficient to shew that so large a majority of the world have no right to raise a clamour against the pursuits of men of science, or to charge them with crimes of which they are themselves guilty. We would not accuse either class of cruelty; each, perhaps, often overlooks the means in contemplating the value of the end for which he strives, and there can be but few in either who love their pursuit for the sake of the means rather than of its object. There may be vivisectors who enjoy the infliction of pain, or thoughtlessly allow more than is necessary for the success of their experiment; but they are not more numerous than those who enjoy a long and destructive chase, and a *killing* pace, as it is called; or who feel exquisite pleasure in the very writhings—the *playings*, as they term them—of the hooked victim of their deception.

We will now only beg any of our readers who may imagine that we would sanction the indiscriminate employment of vivisection, or even that amount of it which is at present practised, to suspend their judgment till in a future article we point out some of the restrictions the observation of which makes it, in our opinion, justifiable. We say *justifiable* only, because as yet we have placed vivisection only on the level of what are commonly called desirable, noble, and manly pursuits; but we think that we can prove that it has had, in some cases, a claim to a less equivocal title, and that, if not *absolutely necessary*, it has conduced as much to the good of mankind in the treatment of diseases as there has resulted of benefit by the constant use of many articles of animal food, which are acquired only with the infliction of the same pain and death.

WESTMINSTER MEDICAL SOCIETY,

Saturday, April 20, 1839.

W. D. Chowne, Esq. M.D. President.

Financial Measures.—Mesmerism.—Carcinoma of the Stomach.—Liquid Carbonate of Magnesia.—Ossification of the Aortic Valves.—Influence of the Mind on the Course of Disease.

The evenings of the 6th and 13th of April were almost entirely consumed in discussions relating to the financial difficulties of the Society. It was finally determined by a small majority, and passed into a law, that all the actual members of the Society should pay an annual rent of half-a-guinea each, on pain of being excluded from all share in the government of the Society; and that all future members should pay the same rent after the expiration of two years from the date of their admission as members. The present admission-fee of one guinea was to be required as formerly.

The only matter relating to science that was introduced during these two evenings was a detail of experiments performed in *lady's school,* by a Mesmerical practitioner. The statements might be considered as perfectly ridiculous, and laughed at accordingly, were it not that indignation is naturally excited at the gross impropriety of tampering with the feelings and principles of helpless children.

This evening Dr. Sayer placed on the table the abdominal viscera of a woman, who, after suffering for eight years with carcinoma of the stomach, died in great suffering. The whole of this viscus was more or less affected. The cardiac orifice, however, was the chief seat of disease. The interior of the stomach was one continuous ulcer. The duodenum was comparatively unaffected, which Dr. Sayer thought remarkable. There were other portions of the alimentary canal affected with the carcinomatous mischief, and several constrictions had taken place in consequence: one especially in the ascending colon, a little above the cæcum, was remarkably strait, and must have very much obstructed the passage of the feculent matter.

Sir James Murray was now introduced by Mr. Costello, and exhibited to the society a bottle of liquid carbonate of magnesia. This fluid was perfectly transparent and colourless: when tasted, it presented the sapid qualities of the ordinary salt. It was dissolved under great pressure of carbonic acid, in a vessel constructed in the same manner as that is which is employed in solidifying carbonic acid gas. The solution seems permanent, and is not soon acted upon by exposure to the atmosphere. The magnesia will be precipitated if a heat of 212° be applied. Each ounce of the liquid contains 15 grains of the solid carbonate of magnesia; but this salt, according to Sir James Murray, is, whilst in solution, three times as active as when solid; a tea-spoonful of it is a dose for a child, and a table-spoonful for an adult. The liquid is capable of being employed for making infusions at a temperature below the boiling point.

Mr. Gregory Smith exhibited a heart which he had taken from an elderly woman, who was cook in a large family. On the day of her death, which took place suddenly, she cooked a dinner for fourteen people, and was for a long period previously actively employed. She had occasionally fits of dyspnœa; the heart was considerably enlarged. The parietes of the left ventricle were an inch and a half thick. The sigmoid valves of the aorta were so incrusted with amorphous ossific matter, that the passage was reduced to the size of a crow-quill; and it appeared surprising how the blood could have found its way into the general system. The coronary arteries were also very much ossified, and the aorta and pulmonary artery were remarkably thin. The disease is supposed to have existed eight months.

Mr. Forbes Winslow next read the following paper on the—

INFLUENCE OF THE MIND ON DISEASE.

The science of medicine, and the science of morals and metaphysics, are more closely allied than medical men are disposed to admit. To treat disease successfully—to be able to grapple with the many ills that flesh is heir to—requires, on the part of the practitioner, a more intimate acquaintance with our moral and mental constitution than, *à priori*, we should be inclined to suppose. He who considers the practice of medicine to consist only in the administration of drugs, entertains but a low estimate of the nature and difficulty of his profession. "To be a discerning physician, it is necessary to be a tolerable metaphysician:" so said Dr. Cullen. It was not, however, his intention to recommend that species of reasoning which confounds the mind without enlightening it, and which, like an *ignis fatuus*, dazzles only to lead us from the truth. To the medical man we can conceive no preliminary studies more productive of advantage than those which tend to call into exer-

tion the latent principle of thoughts, and to accustom the mind to habits of close, rigid, and accurate observation. The science of mind, when properly investigated, teaches us the laws of our mental frame—shews us the origin of our various modes and habits of thought and feeling—how they operate upon one another, and how they are cultivated and repressed: it disciplines us in the art of induction, and guards us against the many sources of fallacy in the practice of making inferences: it gives precision and accuracy to our investigations, by instructing us in the nicer discriminations of truth and falsehood.

The passions are to be considered, in a medical point of view, as a part of our constitution. They stimulate or depress the mind, as food and drink do the body. Employed occasionally, and in moderation, both may be of use to us, and are given to us by nature for this purpose; but when urged to excess, the system is thrown off its healthy balance, and disease is the result.

It is curious to notice the reciprocity of action existing between different mental conditions and affections of particular organs. Thus, the passion of fear, when excited, has a particular influence on the action of the heart; and when a disease of the heart takes place, independently of any mental agitation, the passion of fear is called into exercise. Anger affects the liver, and confines the bowels, and frequently causes jaundice; and in hepatic and intestinal disease how irritable the temper is! So sensible was Dryden of the effect of a loaded condition of the bowels on the mind, that he was accustomed to prepare for a course of study by a course of medicine. "When I have a grand design," he observes, "I even take physic and let blood; for when you would have swiftness of thought and fiery flights of fancy, you must purge the belly." One of the most famous disputants of antiquity always dosed himself with white hellebore preparatory to his refuting the dogmas of the Stoics. Voltaire appears also to have been aware of the connexion alluded to, for he says—"If you have any favour to ask of a king's minister, or a minister's secretary, or mistress, take an opportunity of approaching them after they have had a comfortable evacuation from the bowels." Hope, and the anticipation of pleasure, affects the respiration; and how often do we see patients in the last stage of pulmonary disease entertaining a sanguine expectation of recovery even to the very last!

The passions may be divided into those that excite the powers of the vital system, or rouse the faculties into action, or such as depress and debilitate them.

In diseases in which debility is the prominent symptom, those affections of the mind which rouse the torpid condition of the bodily frame must be called into action. Lord Anson says, in speaking of the ravages which the scurvy made among the men under his command, that "whatever discouraged the seamen, or damped their hopes, never failed to add new vigour to the distemper; for it usually killed those who were in the last stages of it, and confined those to their hammocks who before were capable of some kind of duty."

Again, at the siege of Breda, in 1625, we have an interesting example of the good effects of the exhilirating passions. That city had suffered from the effects of a long siege, and the inhabitants had experienced the miseries of fatigue, bad provisions, and distress of mind; the scurvy had also carried off large numbers. The place was on the eve of being surrendered to the enemy, when the Prince of Orange introduced letters to the men promising them speedy assistance. A medicine, which was represented to be of the greatest efficacy and of high price, was also forwarded to the sick in the garrison. Three small phials were given to each physician. The effects of this deceit were truly astonishing. It was publicly given out, that three or four drops were sufficient to impart a healing virtue to a gallon of liquor. Then invalids flocked in crowds to the physicians. Many who had not moved their limbs for a month before, were seen walking the streets with their limbs sound, straight, and whole. Dr. Sind, who relates the particulars of this circumstance, says it was told him by an eye-witness, an author of great candour and veracity, who wrote down every day the state of his patients, and who seemed to be more surprised with their unexpected recovery than he probably would have been had he been better acquainted with the nature of this surprising malady.

A thousand years before the Christian era, there were at the two extremities of Egypt temples devoted to Saturn, to which those labouring under hypochondria resorted in quest of relief. Some cunning priests, profiting by the credulity of these hypochondriacs, associated with the pretended miracles of their powerless divinities and their barren mysteries, natural means, by which they always solaced their patients, and succeeded often in curing them by amusing the mind, and inspiring confidence and hope. These means were diversions and recreative exercises, to which the invalid was religiously subjected. Voluptuous paintings and seducing images were exposed to their view. Agreeable songs and melodious sounds perpetually charmed their ears. Gardens of flowers and ornamented groves furnished delight-

ful walks and delicious perfumes. Every moment was consecrated to some diverting scene and amusement, which had a most beneficial influence on the diseased mind —interrupted the train of melancholy thought—dissipated sorrow—and wrought the most salutary change in the health of the body, by acting on it through the agency of the mind. The Egyptian physicians advised their patients to repair to those famous temples, as the faculty of the present day suggest a trip to a fashionable Spa.

In many cases when the nervous system is in a debilitated and depressed condition, it will be necessary to endeavour to rouse the mental and physical energies of the patient, to prevent him from sinking under the influence of the disease. In the army, it is proverbial that the time of fatigue and danger is not the time of disease. It is in the inactive and listless months of a campaign that crowds of patients pass to the hospitals. In both these cases it is active exercise giving strength to the brain, and, through it, healthy vigour to the body, which produces the effect. How often do we see the absence of all fear invigorate the system, and render it less susceptible to the action of contagion! Thucydides, speaking of the plague of Athens, says that the most affecting circumstances were the dejection of mind which attended the first attack; for the mind sinking at once into despair, they gave themselves up without a struggle. Whenever Rome was threatened with a pestilence, the authorities marched with great pomp and in solemn procession to the temple dedicated to the god Febris, when a nail was driven into the temple, which was supposed to appease the angry deity. This inspired the people with confidence, and rendered the epidemic, if it made its appearance, less fatal and general. It is only on this principle that we can account for the wonderful efficacy which some charms were supposed to have in preserving the body from the influence of contagion.

From these facts, it will appear evident how imperative it is on the part of the profession, during the existence of any pestilential disease, to do their utmost to prevent the public mind from being unnecessarily depressed by fear and apprehension. It may be a point worthy of our consideration, whether in epidemic diseases admitted to be contagious it would not be politic to keep that fact as much as possible from the public: it is certainly our duty to allay public apprehension, and to invigorate the body, by exciting hope, confidence, and fearlessness, in those exposed to the disease.

Much of our success in practice will depend upon our placing about the patient persons of cheerful and lively dispositions. How often have our best directed efforts proved abortive, owing to the circumstance of the invalid's mind being depresssed by those in attendance, who ought to do their utmost to encourage hope and to inspire confidence in the means used to promote recovery. The following is a case in point:—I was some years ago attending a lady labouring under a uterine affection, attended by great mental dejection. She was nursed by a female relative, who paid every attention to her that kindness and humanity could suggest. The patient, however, appeared to get no better. An idea had taken possession of her imagination that she was going to die, and this notion was encouraged by the female who was in constant attendance at the bedside. The nurse was naturally of a melancholy cast of mind. Whenever she approached the invalid, she would, with uplifted hands, pour forth bitter lamentations: she groaned, sighed, and prayed, until the poor girl was induced to believe not only that she was really at death's door, but that she was destined to be eternally lost. Her mind had been thus powerfully acted upon for some time unknown to me, and she was daily sinking under its influence. I happened to visit her one afternoon when the kind but inconsiderate nurse was, as she thought, administering to the patient spiritual consolation.

I saw in a glance the cause of all the mischief against which I had vainly been endeavouring to contend. I insisted upon having another nurse of a cheerful turn of mind to attend the patient. With difficulty my wish was accomplished. Need I say what was the result? An immediate improvement took place; and in the course of a few days the patient was able to leave her chamber, where she had been confined for some weeks, and where she would have died, had the nurse of the sorrowful countenance been allowed, by her injudicious conduct, to prostrate those mental energies which it was her duty to have stimulated, by holding out every encouragement and hope to the patient.

In the moral treatment of derangement of mind much good is to be effected, if the degree, character, and peculiarities of the malady be taken into calculation. I think it is a great error to suppose that all lunatics are inaccessible to reason, and insensible to the ordinary feelings of humanity. In the early stages of insanity it may be possible to reason a person out of his delusions; but in the more advanced stage, the patient's morbid ideas, affections, or inclinations, ought never to be opposed. The physician ought carefully

to watch for the first dawnings of convalescence, for it is at this period that he can bring effectually into operation his moral agents. The first glimmer of returning reason is often manifested by a change in the patient's feelings towards his friends and relations. A youth who had been confined in an asylum, and whose insanity consisted in a complete perversion of his feelings towards those whom he ought most to respect, suddenly exclaimed, in the presence of the surgeon of the establishment where he was confined, "I love my father." This exhibited so entire an alteration in his mode of feeling, that it was considered as symptomatic of returning mental health, and by judicious moral treatment he soon recovered. "There is a stage (says Dr. Gooch) in insanity, approaching convalescence, in which the bodily disease is lessening its hold over the mental faculties, and in which the latter are capable of being drawn out of the former by judicious appeals to the mind."

"Convalescence from insanity," says Dr. Conolly, "like convalescence from a lingering fever, is a state intermediate between disease and health; and very slight circumstances may retard or promote the patient's perfect restoration." A patient, who had been labouring under a religious delusion of mind, had exhibited symptoms of amendment, and was allowed, accordingly, admission into the convalescent ward. Here he unfortunately met a patient whose insanity had manifested itself in a similar manner, and the two lunatics, who were considered to be nearly well, relapsed into their former state, and the mental delusion became as strong as ever." This case shews the importance of adopting a stricter classification of patients. "So long as one lunatic associates with another lunatic," says Dr. Conolly, "supposing the case to be curable, so long must the chances of restoration to sanity be very materially diminished. Convalescents should not even associate with convalescents, except under strict watching of persons of sound mind. The religious despair of a patient in the next apartment brings back and confirms the religious despondency of his neighbour in this: the passions and violence of those who are parading in the airing grounds revive the passions and ravings of those who are becoming more tranquil.

In insanity, moral treatment is beneficial in proportion as it is had recourse to in the early stage, and in the stage of convalescence. If medical men can be induced to believe that the least deviation from sound mind ought to be considered and treated as a disease or disorder of the mental function, much suffering and distress might be prevented by proper treatment. We must apply to the diseases of the brain and its manifestations, the same principles which we take as our guide in elucidating disease of any other organ. The slightest irregularity, uneasiness, and imperfection, in the function of the liver or stomach, is considered as a disorder requiring medical assistance: the same principles of practice must be applied to cases of mental impairment.

It is a well-established fact, that for one who has become insane from the exercise of his mind, at least a hundred has become deranged from the undue indulgence of their feelings. In persons predisposed to insanity, or who manifest some slight indication of disease, how important is it to endeavour to call into exercise the higher faculties of the mind—the judgment, reasoning powers, memory, reflection, &c.; and thus prevent the intellect from being thrown off its balance. There is much wisdom in Lord Bacon's advice, that "If a man's wits be wandering, he should study the mathematics."

The beneficial effect of recalling by the mind, when the body is prostrated by disease, pleasing associations, is beautifully illustrated in an anecdote related by Dr. Rush, the American physician. He says, "During the time that I passed at a country school, in Cecil county, Maryland, I often went on a holiday, with my schoolmates, to see an eagle's nest on the summit of a dead tree in the neighbourhood of the school, during the time of the incubation of the bird. The daughter of the farmer in whose field the tree stood, and with whom I became acquainted, married, and settled in this city about 40 years ago. In our occasional interviews, we now and then spoke of the innocent haunts and rural pleasures of our youth, and, among others, of the eagle's nest in her father's field. A few years ago, I was called to visit this woman when she was in the lowest stage of typhus fever. Upon entering the room, I caught her eye, and, with a cheerful tone of voice, said only, "The eagle's nest." She seized my hand, without being able to speak, and discovered strong emotions of pleasure in her countenance; probably from a sudden association of all her early domestic connexions and enjoyments with the words which I uttered. From that time she began to recover."

An illustration similar to the one recorded by Dr. Rush, is related by Sir John Malcolm, in his interesting sketch of his friend Dr. Leyden. Sir John observes, speaking of the Doctor, that his love of the place of his nativity was a passion in which he had always a pride, and which, in India, he cherished with

the fondest enthusiasm. I once went to see him when he was very ill, and had been confined to his bed for many days. He inquired if I had any news. I told him I had a letter from Eskdale: and "What are they about on the Borders?" he asked. "A curious circumstance (I replied) is stated in my letter;" and I read him a passage which described the conduct of our volunteers, on a fire being kindled by mistake at one of the beacons. This letter mentioned, that the moment the blaze, which was the signal of invasion, was seen, the mountaineers hastened to their rendezvous, and those of Liddisdale swam the Liddal river to reach it. They were assembled (though several of their houses were at a distance of six or seven miles) in two hours, and at break of day marched into the town (a distance of about twenty miles from the place of assembly) to the Border tune of "*Wha dar meddle wi' me?*" Leyden's countenance became animated as Sir John proceeded with this detail, and at its close, although the Doctor had been previously too weak to rise from his bed without assistance, he sprung out on the floor, and with strange melody, and still stranger gesticulation, sung aloud, "*Wha da meddle w' me—wha da meddle wi' me?*" and from this day a sensible amendment took place, and he soon recovered from the effects of the malady under which he was labouring.

Dr. Armstrong, who knew well the importance of attending to the mind of the patient, said to Dr. Boot, a short period before his death, "Boot, remember to be always cheerful in your intercourse with the sick; it takes a load from the heart, and infuses into it hope and confidence." Dr. Nichols, in his *De Anima Medica*, says, that whatever a man's distemper was, he would not attend him as a physician if his mind was not at ease; for he believed that no medicine would have any influence under these circumstances. He once attended a man in trade, upon whom he found none of the medicine he prescribed have any effect. He asked the man's wife privately, whether his affairs were not in a bad way? She said, "No." He continued his attendance some time, still without success. At length the man's wife told him she had discovered that his mind was much troubled by his pecuniary difficulties. When Dr. Goldsmith was dying, Dr. Turton said to him, "Your pulse is in greater disorder than it should be; is your mind at ease?" The poet answered it was not, and he feared that his death had been accelerated thereby.

In some cases of mental derangement, and in many low nervous diseases, the cheering influence of music might be had recourse to with advantage. In some peculiar conditions of mind it has been known to exercise a highly beneficial influence. The attachment of the inhabitants of Switzerland to their native soil, notwithstanding the severity of the climate, is proverbial. It is well known, that when the Swiss are separated from their own mountainous and bleak wilds for any length of time, they are attacked with a disease termed *nostalgia*, which in former days was attended by serious and often fatal consequences. In Switzerland there is a favourite dance which the young shepherds perform to a tune played on a sort of bag-pipe. It is of a wild and irregular character, but so intoxicated are the lower order of Swiss with it, that if they hear it played while on foreign service, it causes such an intense desire to revisit their native homes, that, if not gratified, disease and death have often been known to result. So powerful an effect had this music on the Swiss troops, that orders were issued to the French army that the tune was not to be played in the Swiss regiments on the pain of death.

The influence which music is said to have upon the body, through the medium of the mind, is explained in two different ways. In the first place, a soothing effect is produced by the monotony of the sound, similar to what is well known to result from listening to the gurgle of a mimic cataract of some mountain rill, or to that of any water-fall. How often has the music caused by the waves gently dashing upon the beach, produced sleep, when all our narcotics have failed in producing a similar effect. This soporific effect of the repetition or monotony of sound, is beautifully alluded to by Mackenzie, in his Man of Feeling. When his hero, Mr. Harley, arrives in London, he finds that the noise and varied excitement of the metropolis increases his nervous state of habit, and prevent him from sleeping. Ordinary narcotics produce no effect upon him, and he must have continued to suffer from watchfulness if he had not happily touched his shoe-buckle, which lay upon the table; when the vibration produced a monotonous sound so closely resembling the voice of his good aunt, who nightly read him asleep in the country, that from that time he regularly applied to the same narcotic, and always slept soundly. Music acts, secondly, by causing an association of agreeable ideas. A lady who was confined in an asylum in the vicinity of London, and who had been separated for some months from her home and from all she held dear, was proved partially convalescent. She was, however, still melancholy, and it was suggested by her father that a piece, of which she was passionately fond, and which was associated with the

happiest period of her life, should be played within her hearing. This was done; and the medical gentleman who related this circumstance to me was present during the performance of the experiment, and carefully watched the result.

The effect produced was highly gratifying. For the first few minutes she took no notice of the music; in a short period a smile was seen to play upon a countenance where all had been dark and gloomy for months. As the music continued to be played, the effect produced was more sensible and powerful; ideas of a most pleasurable kind appeared to crowd upon a mind which had previously been a blank; a chord had been touched which vibrated through her until she appeared absorbed in the pleasing associations which the favourite tune had caused, and a joy was excited which, too intense for conventional modes of expression, represented itself in those quickly varied attitudes and lively motions whereby childhood exhibits its delight. This patient, in a very short period, was sent home completely restored to health.

We are told that the disease of Saul was alleviated by David's harp. Gibbon, in his work on the Decline and Fall of the Roman Empire, observes, that "Experience has proved that the mechanical operation of sounds, by quickening the circulation of the blood and spirits, will act on the human machine more forcibly than the eloquence of reason and honour."

In illustration of this observation, the following anecdote has been related. At the battle of Quebec, in April 1760, while the British troops were retreating in great confusion, the General complained to a field-officer of Fraser's regiment, of the bad behaviour of his corps. "Sir," answered he, with great warmth, "you did very wrong in forbidding the bagpipes to play this morning; nothing encourages Highlanders so much in the day of action—nay, even now they would be of use." "Let them blow, then, like the devil," replied the General, "if it will bring back the men." The pipes were ordered to play a favourite martial air. The Highlanders, the moment they heard the music, returned and formed with alacrity, and fought like infuriated lions.

We have the authority of Aristotle, that actual madness in horses may be cured by the melody of flutes; and Shakspeare, that music will put a stop to the gambols of a herd of wild unmanageable colts. Bonnet says, in his History of Music, that an officer being shut up in the Bastile, had his lute allowed him; upon which, after a trial or two, the mice came issuing from their holes, and the spiders, suspending themselves from their threads, assembled round him to enjoy his melody.

We have several well-authenticated cases recorded, of monomania being cured by the patient being tricked out of his delusion of mind. Boerhaave mentions the case of a madman, who took it into his head not to make water any more, fearful of inundating the town in which he resided. This folly would have caused his death, if the physician had not bethought of creating, within the patient's hearing, an alarm that the town was on fire, and that nothing could save the inhabitants from ruin unless he would have the goodness to expel his urine to extinguish the conflagration. This reason appeared so logical to the monomaniac, that he made water and was cured.

A celebrated French writer on insanity mentions the following cases:—

A lunatic refused to eat; he had made a vow, and was bound in honour to abstain from food. After many days employed in the attempt to persuade him of his mistake, a pretended order was brought, signed by his revenger, who commanded him to break through his resolution, and promised him a guarantee against any reproach on that account. After a moral struggle of some hours he gave way with reluctance, took food, and was restored. Another individual, who had become insane in consequence of the political events of 1813, was informed of the revolution which occurred in the following year. He refused to believe until he was led by his physician into the midst of the foreign troops which surrounded Paris. He was convinced, and almost immediately cured.

Insanity caused by erroneous views of religion occurs most commonly in young persons of acutely susceptible feeling, and requires the most delicate and cautious management. Two modes of treatment are adopted in regard to it, and both equally erroneous. The one consists in hurrying the individual into the distraction of company, or a rapid journey. The other in urging religious discussions, and books of profound divinity. Both courses are attended with bad results, particularly the latter; for every attempt to discuss the important subject to which the distorted impression refers, only serves to fix the hallucination more deeply. The mode of treatment recommended by Dr. Abercrombie, under these circumstances, consists in enforcing regular exercise, paying attention to the general health, and suggesting a course of reading of a nature likely to fix the mind, and carry it forward in a connected train. Light read-

ing, or mere amusement, will not answer the purpose. A regular course of history appears to succeed the best; and fixing the attention, by writing out the dates and leading events in the form of a table. When the mind has thus been gradually exercised for some time, in a connected train of thought, it is often astonishing to observe how it will return to the subject which had entirely overpowered it, with a complete dissipation of former erroneous impressions.

It is questionable whether, in these cases, travelling is productive of advantage. It was observed to Aristotle, that a particular friend had derived no benefit from his travels. "That is owing," he replied, "to his having travelled along with himself." It is not easy to "pluck from the memory a rooted sorrow."

How much a medical man's success in the treatment of disease depends upon his being able to inspire and to secure the confidence of the patient! Implied faith between the patient and the doctor is the sheet anchor of both. Take this, and it will make you whole—is a cordial to the heart. By faith John Hunter's pill cured timid bridegrooms, and dissipated refractory gonorrhœas. An ague, which has defied a College, has vanished before the spell of a village witch.

A patient, who bore about him a mortal malady, surrendered himself into the hands of a quack, with an understanding that he was not to expect a change before six months. A friend, who saw the daily fee, and daily deceit, expostulated with the deluded man, who exclaimed, "For God's sake destroy not the hopes that man holds out to me; upon them I live, without them I die!"

An eminent physician has justly observed, that the person in whom there is the least fear of dying, has, *cæteris paribus*, the fairest chance to survive; so powerful a tonic influence has hope upon the body. Hope is a modification of joy, or rather joy by anticipation. This passion, or affection of the mind, is so pleasing and invigorating, that it is emphatically styled the "balm of life." It preserves the mind from stagnating in its present possessions, corrects the uneasiness of desire, and animates it to struggle with the difficulties it may have to encounter. He who gave away all he had, and reserved only hope, made not so ill a bargain as may be imagined; he took for himself that which is sweetest in life. How often do we see sickness, which has resisted the ordinary means of cure, yield solely to the influence of the mind, reposing confidence in the pretending impostures or some, or the supposed sanctity and efficacy of prayers and good works of others. Hence the observation of an eminent writer, who says, "The physician is often the poet, the artist, the third son of Apollo, and begotten only under the influence of mild constellations. He that depends on medicine alone, as such, seeks corn in thrashed sheaves. Medicine," he continues, "is but an instrument of cure; but the physician heals not by it alone, but by the glance of the eye and the animating word."

In cases of melancholy, much good is often to be effected by moral treatment. Of course the mode adopted must be in accordance with the peculiarities of each individual case. I will admit the difficulty of reasoning a man into cheerfulness of mind. It is easy to say to the sad, be happy; but it is no easy thing to drive out of his mind the delusions which have taken such forcible possession of its faculties.

It is obvious that there is a large scope for the management of the mind and passions in these cases. The great point is to endeavour to interrupt the attention of the mind to its accustomed object. To effect this much judgment is required. Most hypochondriacs are jealous of being considered as such, and have generally a great opinion of their own wisdom and sagacity, and are apt to hold very cheap the common amusements of life, especially those connected with social intercourse and company, particularly as they are inclined to think themselves neglected and despised by the world.

I think, in these cases, it is advisable not to contradict too peremptorily the ideas or opinions of the patient; opposition, if too direct, serves only to irritate the temper, and to confirm erroneous opinions. Such a degree of compliance as expresses only a moderate assent, often succeeds. It has been recommended to excite such passions as are of an opposite nature to those that have prevailed during the course of the disorder. Travelling, music, cheerful entertaining conversation, often effect much good in these cases, when no physical agents can bring about a favourable result. "Beware," says Dr. Burrows, "of giving a hypochondriac reason to think his mind is deranged; it is the surest way to make it so. Neither ridicule his predilection for adopting all sorts of remedies, for it will forfeit his confidence in you, and either make him relinquish all means of cure, or drive him to empiricism. It is often," says the same authority, "prudent to treat an imaginary disease as if it were real."

Much good is to be effected by the

cheerful conversation and encouragement of a sensible friend, who has tact enough to rouse the other faculties into activity, and to withdraw dexterously the patient's attention from dwelling on his delusion. The sound faculties are thus brought into play and strengthened, new interests are excited, and a temporary oblivion of his distresses takes place, which, as allowing the morbid organs time to rest, is extremely favourable to recovery.

How awful and terrible is that man's situation, deprived of the cheering and elevating influence of this passion. It was once my lot to witness the case of a maniac whose derangement of mind consisted in his having abandoned himself to despair. He laboured under no distinct and prominent delusion, but his disease was simply a total absence of all hope. The iron had entered his very soul; he appeared as if the hand of a relentless destiny had written on the threshold of his door, as on the gate of the infernal region of Dante, this heart-rending sentence—"Abandon all hope."

Aretæus, fully sensible of the necessity of supporting the strength of the system, and how much this depends upon the spirits, expressly counsels the patient to be of good heart; and advises the physician to entertain him with such discourse as might tend to encourage his hopes of recovery. This celebrated physician has given minute instructions connected with the moral treatment of disease, which he considered of great importance in practice. In particular affections of the nervous system, he directs that the eyes of the patient should be entertained with the sight of plants, paintings, and he should be amused with the cheerful discourse of his attendants. He further recommends, that the bed of the patient should be placed near a window commanding a beautiful prospect; he directs the chamber to be strewed with flowers, so as to resemble the face of the country in the spring. He suggests the introduction of music, and that amusing books should be read aloud to the patient, in order to prevent his mind from dwelling on his disease, and thus preventing his recovery.

[We regret that the length of the preceding paper precludes our giving the author's remarks on the benefits to be derived in cases of mental disease and nervous affections by powerfully rousing the mind; as well as his observations on the effects of the imagination on the fœtus in utero.—Ed. Gaz.]

THREE CASES OF ABORTION,

WITH SYMPTOMS OF POISONING,

Produced by the use of Rue.

By M. Th. Helie.

Case I.—A young girl of very short stature, but of robust constitution, who had had a very difficult labour at the age of sixteen, brought on a miscarriage in the third or fourth month of pregnancy, in the following manner, as she confessed:—She sliced three fresh roots of rue, as big as her finger, and boiled them in a pound and a half of water down to three cupfuls, which she took in the evening at a draught. She was immediately seized with a dreadful pain in her stomach, which was soon followed by so great and general a disorder that she thought she was going to die; she saw every thing through a cloud, tottered, and felt giddy, and, as it were, intoxicated. Soon afterwards there were violent and continual efforts to vomit, but she only brought up a little blood. This state lasted the whole night. On the following day the symptoms diminished, and at the same time she began to experience colic, which was slight at first and more severe afterwards, the fits being separated by long intervals. Towards the evening of the second day they became violent, and followed one another in quick succession. There was now a small discharge of blood, then large clots were thrown off, and abortion took place with ease in a few minutes, forty-eight hours after the decoction of rue had been swallowed, the girl not having been confined to her bed. The symptoms caused by the rue went off in a few days.

Case II.—Maria ——, aged 25, a servant in town, had been in the country with a farmer for five days, to get well of an indisposition with which, she said, she had been recently attacked. During the first two days she went out, and had a good appetite. On the third day she was suddenly seized with continual vomiting, which was difficult and painful. There was considerable fever and thirst, and she drank a large quantity of service cider* and wine-and-water, which she immediately vomited up. The vomiting had now lasted two days, accompanied by great weakness, twisting movements of the limbs and trunk, rotatory movements of the head, and delirium, or rather reverie, when M. Hélie saw the patient, on the 5th December, 1835. She was then in a sleepy state, from which she was easily roused; she answered questions well, but

* A drink is made in some parts of France from the fruit of the service-tree.—*Translator's Note.*

with slowness and some difficulty; the eyes were injected, the face somewhat coloured, and without expression: one might have said that she was drunk. Her sight was dim, the pupil contracted, some fever, with a large and soft pulse, and but little heat of skin. The urine had been suppressed since the vomiting had begun, and there were no alvine evacuations. The tongue was somewhat red just at the edges; the epigastrium was slightly painful. On feeling the abdomen, Dr. Hélie perceived that the patient was about seven months pregnant. The pertinacity of the girl in denying her pregnancy, and this sudden attack of vomiting, accompanied by unusual symptoms, led Dr. Hélie to suspect the employment of some drug to procure abortion; but his inquiries were for the time fruitless. There was nothing to announce the beginning of labour; the abdomen was quite yielding, and there was no discharge. On the other hand, her general plumpness and good complexion forbade the supposition that there was some recent disease. He therefore confined himself to prohibiting the hurtful drinks which the patient had been using for the last two days, and to prescribing a decoction of barley, with low diet, &c.

The vomiting was soon allayed, but all the other symptoms continued. On the morning of the 6th she seemed to suffer still more. At eleven o'clock, her face, her general state, and all the symptoms, were the same as on the previous day, but of diminished intensity. On raising the bed-clothes, M. Hélie was struck with the characteristic odour of parturition; and between her thighs there were two children, still attached to the placenta, which had also been thrown off. They seemed to have reached six and a half or seven months of fœtal existence, but one was much larger than the other. They were both dead, but there was nothing to shew that they had lived after their birth, nor was there any trace of external violence. There was a considerable quantity of blood and water in the bed; the uterus was well contracted. The pains, according to the girl's account, had begun the day before, and delivery had taken place an hour preceding this visit; and though it had been very painful at the moment, several persons present in the room had not the least suspicion of it. This day and the next produced but little change in the symptoms. There was still a state of somnolence and stupor, reverie, movements and twisting of the limbs, and frequent moans; stools and urine were passed, and the lochia flowed. She took roast meat in wine, according to country usage.

On the evening of the 8th there was swelling of the breasts, with fever, delirium, and convulsive movements of the limbs, which were both violent and continual: until this period Maria had not been very ill. In consequence of this exacerbation she fell into a state of extreme debility; the vomiting returned, the master brought up consisting of green bile, and of food and drink, which were thrown up as soon as swallowed.

On the 9th, the symptoms increased, and there was distension of the abdomen. On the morning of the 10th, there was extreme weakness, prostration, somnolence, stupor, an intoxicated expression of countenance, and frequent moaning, with the articulation of a few monosyllables; there was also reverie, with subdelirium, and there had been for the last two days enormous swelling of the tongue, which was red, but covered with a thick whitish coat. The pupil was constantly contracted, the eyes dull, the vision confused, the pulse feeble, soft, very small, and beating only thirty times in the minute, but regular; the temperature of the skin was below the healthy standard. The arms were affected with a twisting motion, and the head rolled to the right and left. The epigastrium was tender on pressure, but the rest of the abdomen was supple and not painful. The uterus had returned to its natural situation. There were continual bilious vomitings; the patient refused to eat or drink, and had grown sensibly thinner; the lochia were suppressed. These symptoms, unaccompanied by peritonitis, strengthened Dr. Hélie's belief that abortion had been excited by some narcotico-acrid substance. In fact, he learned that Maria had taken a decoction of rue leaves, without being able to ascertain in what dose or how many days she had employed it.

On the two following days, the 11th and 12th, the state of the patient was nearly the same. Two large blisters had been applied to the thighs, and cataplasms to the epigastrium; barley-water had been prescribed for drink; and, on account of her extreme weakness, a few spoonfuls of light broth, which was at first vomited, but afterwards retained: two blisters were then applied to the legs, and cold sugar and water was given for drink.

There was afterwaeds some mitigation of the symptoms.

On the 13th there was a remarkable change: the symptoms of poisoning gradually went off, and were changed into those of typhus fever, the disease not becoming less serious.

On the following days, a considerable improvement took place; the tongue returned to its natural state; the salivation

stopped; the convulsion of the limbs ceased; the understanding seemed less obtuse; the pulse remained equally weak and slow, but the skin was no longer cold. There was an attack of fever every evening, and vomiting when the paroxysm came on, but at no other time. The urine continued to pass involuntarily, but no longer accumulated in the bladder. The lochia had returned. She was ordered to take milk as her sole aliment, and gum-water with milk. The improvement continued; the typhoid state went off in a few days; and the evening febrile attacks did not return. The abdomen yielded to pressure, and was not tender; but there was obstinate constipation for some days, which was overcome by two ounces of manna. The urine now ceased to flow involuntarily; the face regained its natural expression, and the understanding its powers. The slowness of the pulse was one of the symptoms which lasted the longest.

On the 30th of December Maria returned to service, and some days afterwards was able to work again.

Case III.—A young girl, being four or five months pregnant, and wishing to induce abortion, took for several days a large dose of the expressed juice of fresh rue leaves. She experienced symptoms quite resembling those of the preceding case, and was in great danger. When she was at the worst, among other symptoms were observed prostration, somnolence, excessive general debility, frequent fainting, extreme smallness, weakness, and slowness of the pulse, extraordinary coldness of the skin, and continual non-convulsive movements of the limbs, particularly the arms. As in the preceding case, there came on active inflammation, and considerable swelling of the tongue, with copious salivation. For several days abortion was seen to be coming on, but the fœtus was not expelled till towards the sixth day, dating from the beginning of the symptoms of poisoning. When abortion had taken place, all the symptoms grew milder, and no inflammation of the uterus followed. The symptoms of poisoning, however, lasted at least twelve days, and went off gradually. The girl recovered slowly. — *Annales d'Hygiène*, vol. xx.

STRUCTURE OF THE INFUSORIA.

In the last number of Müller's Archiv. is a paper of M. Mayen, giving the results of his microscopic observations on the infusoria. If his views are confirmed by other inquirers, the whole organization of the polygastrica must have been laid down erroneously by Professor Ehrenberg, whose account of them has been admitted into all works on natural history. We have here a striking proof of how rarely any two microscopic observers can manage to see the same thing. It will be seen that M. Mayen entirely denies the existence of the minute stomachs, as asserted by Ehrenberg.

Natural historians are aware, that as early as in the year 1781, V. Gleichen added carmine to fluid containing infusory animalcules; and on the following day observed, that they showed several red globules in the interior of their bodies, from which he inferred that the animalcules had swallowed the colouring matter. He also observed that these globules disappeared again through a special opening. Professor Ehrenberg has more lately repeated these experiments, and drawn from them the conclusion, that the infusory animalcules in question possess a greater or smaller number of stomachs, which in some families communicate with each other by means of a common alimentary tube, in a manner differing in different species. In consequence of these discoveries these infuriosa received the names of polygastria. Professor Ehrenberg had observed these stomachs became filled in succession, and has even given representations of the alimentary canal which lies between and unites them.

M. Mayen has never subscribed to those views; first, becausehe could never see the alimentary canals said to unite the stomachs; and secondly, because he has seen the stomachs moved about with greater or less celerity, just like the globules in the rotatory motion which is carried on in the cells of the charæ. At a later period, he observed in the vorticellæ, that when they had from nine to fifteen large indigo globules in their body they regularly turned around a fixed central point, so that in them an alimentary canal uniting the stomachs and opening at the mouth and at arms could not exist. What, then, are those pretty large globules and bladders which are found in the interior of the infusoria? This question M. Meyen has put to himself, and has been enabled to answer by making continued observations on the subject.

The true infusoria are bladder-like creatures, whose cavity is filled with a mucous saltish substance. The thickness of the membrane forming the bladders, can, in some of these creatures, be clearly determined; and M. Meyen has, in some of its families, observed in this membrane a well-marked spiral structure, so that in

most particulars the structure of these infusoria resembles that of the cells of plants. In the larger infusoria there passes from the opening of the mouth a cylindrical (alimentary) canal obliquely through the membrane forming the animal; the extreme end of this canal expands itself to a greater or less degree when nourishment is taken in, but usually to the size of the globules which are seen in the interior of these creatures. The inner surface of this part of the alimentary canal is clothed with cilia, by whose motion nutritious and foreign substances, which are taken in, are moved about in circles with great celerity, until they are rolled into the form of a regular globule. During this formation of the globules, the stomach (for the organ in question can only be taken for the stomach) is openly united to the alimentary canal, and by the exterior ciliary apparatus new matter is always drawn into this canal, and as far as to the stomach; but whether the alimentary canal between the opening at the mouth and the stomach is also covered with cilia, M. Meyen has not yet been able to determine.

When, then, the globules of the matter taken in have attained the size of the stomach, they are pushed through at the other end, and driven into the stomach of the animalcule, whereon a new ball immediately forms itself within the mouth of the alimentary tube, if any firm matter be present in the enveloping fluid: this second ball is sent into the stomach of the animalcule in like manner, and now pushes before it the first ball along with the mucus lying between them, and so the formation of similar globules proceeds.

It was from these globules that Professor Ehrenberg inferred the existence of the great number of stomachs. If in the fluid enveloping the animalcule there is little matter of a firm consistence, then the globules are also less firm, and they are similar in appearance to those which are commonly observed in infusoria in an uncoloured fluid; and in them such a globule shews only a few small particles of solid matter, and consists chiefly of the mucous fluid, which assists in rolling together particles of firmer consistence, when present. Sometimes such soft globules are pressed together so forcibly by the strong contractions of the animalcule, that they remain so united.

Whoever wishes to observe very clearly the formation of these globules, must begin his observations immediately on the infusoria being placed in relation to the coloured fluid, as the colouring matter is very quickly taken in, the process often beginning after half a minute. One can then observe how one globule after another passes perfectly formed out of the alimentary canal—is pushed down on the inner wall of the stomach of the animalcule (just as in the paramociæ, keroniæ, and vorticellæ)—how then new globules press the old ones forward along with the mucus lying between them, so that the first formed soon begins to rise up on the opposite wall of the stomach, turns itself round at the opposite end of it, and then is pushed down again on the othe side; and so the number of these (revolving) balls increases, until some of them are thrust out at the anus.

The number of these globules is sometimes so great, that the whole cavity of the animalcule is filled with them, and that they lie so close on each other, that they altogether form one large uniform mass, which often (especially in the vorticellæ) slowly moves round on its centre. This motion of revolution M. Meyen has ascertained to be caused by the force with which the new balls, formed from time to time, are pushed into the stomach, and act on the lower surface of the ball of globules. In other cases, where so many globules are not present, that circular motion of globules round a central point (already alluded to in the beginning of this paper) is displayed; but the causes of this motion are uncertain.

In short, in the true infusoria, the matter which they can take in is brought into their stomach in the form of globules; and here the nutritious portion is extracted from them. The unnutritious portion passes away usually in just the same globules as those in which it entered; but the mucus lying between them is commonly reabsorbed, and in some few cases the particles of matter to be excreted begin to separate from the globules while in the stomach.

But what, then, are the bladder-like cavities which often occur in so large number, and of such different sizes, in the interior of the infusoria? They are certainly not stomachs, as they exercise no action on the globules of which we have hitherto spoken, although occasionally a few reach the stomach among the globules. *We can observe the formation of these cavities, and also their sudden and complete disappearance* in the mucous fluid in the interior of the infusoria, just as well as the formation of the globules; we can even see such a cavity form itself around one of the globules, and then disappear again after a time. The microscope shews that these cavities have no special membranous walls, but consist purely in a hollowing out of the mucous substance. They also usually occur on the inner surface of the membrane which forms the walls of the

animalcule; and sometimes they enlarge to such a size, that such a bladder forms from a third to a half of the cavity of the whole animalcule. The slight refraction of the rays of light falling on their edges, shews that these cavities, or stomachs of Ehrenberg, contain a thin and watery fluid, and are not filled with air; and in the larger infusoria it can be distinctly seen *that they do not open externally.* Similar cavities are formed in the mucus of the cells of plants, and are especially common in some of the aquatic thread fungi, or hyphomycetes, in Martius's system.

M. Meyen regrets that his botanical labours prevent him from carrying the subject further out at present, but hopes that these observations will lead others to a more thorough examination of the subject.

[The only obscurity in the paper of M. Meyen arises from the use of the words *magen* and *höhle.* It is presumed that M. Meyen believes that the digestive organs of the infusoria consist of a tube expanding to form a stomach, and contracting again before ending in the anus. *Magen* has therefore been translated, alimentary canal; and *höhle,* stomach.—TRANSLATOR.]

THERAPEUTIC USES OF VINEGAR.

THE use made of vinegar in common life is sufficient to shew its refrigerant power. Every one knows that when habitually taken, it produces leanness, from a sort of languor of the digestive passages. Some persons have used it successfully against certain kinds of dyspepsia, which may easily be accounted for, if the disorder was of a kind to require antiphlogistic remedies. In a healthy man vinegar increases the perspiration and urine. When given in a large dose it obviously weakens the powers of life, lowers the pulse, and causes lassitude in the limbs. Its action is consequently the contrary of that of wine; and vinegar is, in fact, an excellent means of correcting the action of wine, many practitioners affirming that it is one of the best remedies for speedily dispelling the intoxication caused by alcohol.

These data are sufficient to prove the lowering property of vinegar; but there are other facts which may be cited on the same side.

Every one knows that vinegar is useful against the narcotism produced by opium; this effect is purely physiological, and may be easily explained by the lowering property of vinegar; for the action of opium being stimulant and congestive, vinegar counteracts it, as bleeding, or any other antiphlogistic would. Chemists fancy that in such cases the vinegar acts upon the opium, and forms an acetate of morphia, but it is not so; for the opium is no longer chemically accessible, the moment it has produced its narcotic effect, as it is then already absorbed, and has passed into the blood; and, moreover, if the supposed acetate were really formed, it would be as narcotic as the opium.

Hippocrates knew the refreshing powers of vinegar so well, that he prescribed it against inflammatory fevers in the forms of vinegar and water, oxycrat, (syrup of vinegar), and oxymel. Many patients drink these beverages with avidity, especially in summer, and are much benefitted by them, when their diseases are of a kind requiring antiphlogistic treatment.

In 1790, Leonessa of Padua publicly treated a patient labouring under hydrophobia with large doses of vinegar, and asserts that he cured him, although the malady was already developed. He gave a pound a day, divided into four doses. This cure may be explained by the strong contra-stimulant power of vinegar; and hence other physicians have obtained the same result by means of belladonna in large doses.

In other cases of hydrophobia vinegar has been given without success; yet neither the fact just mentioned, nor the lowering power of the remedy, can be disputed.

Mental aberration has been combated with vinegar; and good effects have been produced when the disease was of a kind to yield to antiphlogistics: in such cases the remedy has been given in the dose of several ounces a day, after meals. Long experience has taught us that oxymel is an excellent expectorant, both in acute and chronic inflammation of the chest; and some practitioners have even prescribed vinegar with advantage in phthisis. Nevertheless, it is generally avoided in these cases, because vinegar is said to irritate the chest, and excite coughing; but this is a prejudice which it is right to resist. It is not true that vinegar irritates the chest, but its contact with the back of the palate during deglutition titillates the mucous membrane, and sometimes excites coughing; but this mechanical effect may be easily avoided by giving the medicine in a gummy potion, or in the form of syrup, or of oxymel. In inflammatory diseases, fomentations with water mixed with a good deal of vinegar are doubly useful, both by the absorption of the vinegar, and by the refrigerating evaporation which they produce.

The Roman armies, during their cam-

paigns in the East, carried with them a stock of vinegar, with the twofold object of quenching the soldiers' thirst when the weather was very hot, and preserving them from intermittent fever.—(*Vegetius de Re Militari.*)

The English have copied the Romans in this point, and with great advantage.—(*Pringle.*) The preceding considerations give the reason why.

The reader will now see how absurd is the theory of some toxicologists, who prescribe vinegar and the other acids in many kinds of poisoning, as, for instance, when it arises from belladonna; for their practice is founded on a false analogy drawn from the poisonous effects of opium. We have just seen, indeed, that in the latter case vinegar is useful; but we shall shew that in poisoning by belladonna, and many other drugs, it is hurtful, because it pulls the same way with the poison. We shall terminate these observations by borrowing the following case from Portal:—

"A few years ago, a young lady, in easy circumstances, enjoyed perfect health; she was very plump, had a good appetite, and a complexion blooming with roses and lilies. She began to look upon her plumpness with suspicion, for her mother was very fat, and she was afraid of becoming like her. Accordingly she consulted a woman, who advised her to drink a small glass of vinegar daily: the young lady followed her advice, and her plumpness diminished. She was delighted with the success of the remedy, and continued it for more than a month. She began to have a cough, but it was dry at its commencement, and was considered as a slight cold which would go off. Meantime, from dry it became moist; a slow fever came on, and a difficulty of breathing; her body became lean and wasted away; night sweats, swelling of the feet and of the legs succeeded, and a diarrhœa terminated her life. On examination, all the lobes of the lungs were found filled with tubercles, and somewhat resembled a bunch of grapes."—*Gazette Hôpitaux; from a Treatise on the Materia Medica, by Professor Giacomini, of Padua.*

HUMAN BODY RENDERED LUMINOUS BY PHOSPHORUS.

A CASE of glanders in the human subject recently occurred at the Hôtel Dieu, Paris. The treatment consisted chiefly in the exhibition of phosphorus externally and internally. The only result mentioned in the report of the case is such a degree of phosphorescence, that the body after death was sufficiently luminous to light up the *salle des morts.—Gazette des Hopitaux.*

PATHOLOGY OF PORRIGO.

THE observations of Bassi and Audouin on the nature of muscardine—a disease to which silkworms are subject—had proved that it was owing to the growth of minute fungi on the animal. Professor Schoenlein, of Zurich, has been led to examine under the microscope some cutaneous eruptions. On the first examination of a pustule of porrigo lupinosa, he satisfied himself of the vegetable and fungous nature of the pustule. Professor Schoenlein is busily employed in prosecuting this subject, and means soon to publish the results of his investigations.—*Müller's Archiv.*

ROYAL COLLEGE OF SURGEONS.

JACKSONIAN PRIZE.

THE Jacksonian Prize for the year 1838 has been adjudged to Mr. Edwin Lee, of London, for a Dissertation—"On the Comparative Advantages of Lithotomy and Lithotrity, and on the Circumstances under which one Method should be preferred to another."

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, April 25.

William Blucher Dolton.—Thomas James Holmes, Lyme Regis.—Henry Obré, Gosport, Hants.—John Watson, Knaresborough, Yorkshire.—William Richard Edwin Smart, Devonport.—Francis Wm. Drake, Hadleigh, Suffolk.—Thomas Richard Collins Downes, Ludlow, Salop.—Lancelot Newton, Sawtry, Hants.—Edward Kingsford, Canterbury.—Walter Goodyer Barker, W. Tarring, near Worthing.—Ralph Montague Bernard, Clifton, Gloucestershire.—Henry Brickwell, Sawbridgeworth.—Joseph Bowers Gray, Queen's College, Cambridge.—James Hiley, Elland, Yorkshire.—Frederic Barham, London.—Frederick Dickonson Nightingale, Windsor.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *April* 23, 1839.

Age and Debility	33	Hooping Cough	4
Apoplexy	5	Inflammation	15
Asthma	8	Bowels & Stomach	3
Cancer	1	Brain	3
Consumption	52	Lungs and Pleura	5
Convulsions	20	Insanity	1
Dentition	6	Measles	5
Dropsy	11	Mortification	2
Dropsy in the Brain	4	Paralysis	3
Epilepsy	1	Small-pox	3
Fever	11	Thrush	4
Fever, Scarlet	2	Tumor	2
Fever, Typhus	4	Unknown Causes	44
Hæmorrhage	3		
Heart, diseased	1	Casualties	4

Decrease of Burials, as compared with the preceding week . . . 69

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 4, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Diuresis saccharina—concluded.

Dr. Prout also mentions the necessity of attending to the thirst, and its consequences—the immoderate use of fluids. He says, there can be no doubt that the drink should be limited as much as possible, for if the patient be permitted to indulge *ad libitum*, we can scarcely hope for benefit from any remedy; and he observes, that patients under these circumstances suffer from "such a degree of mental imbecility, or want of stoicism, that they will frequently drink by stealth when they cannot for shame, or want of opportunity, do it openly*." That patients should be indulged to a certain extent, and within due bounds, no one can pretend to deny. It would be not only cruel, but positively injurious, to subject the patient to all the tortures of thirst without some effort for his relief. It therefore becomes matter of inquiry—first, what are the drinks best suited to the circumstances; next, how the conditions upon which depends the insatiable desire for drink may be best corrected or relieved.

Aretæus has given a list of fluids which he states are best adapted for patients suffering from diabetes: and first, he recommends water boiled with autumnal fruits*. He also recommends certain wines—astringent to strengthen the stomach, and undiluted to evaporate and dissipate the other humours†. The salt wines, he says, excite thirst, but the astringent ones are at the same time cooling, and also change the body, and induce a good habit‡. But even sweet wine, according to the same author, like the blood, invigorates; because it generates blood §.

Wines, however, in the present day, are not generally considered best adapted to the states of stomach usually prevalent in diabetic patients. From the state of the stomach, almost all the matters introduced undergo some species of fermentation: hence the sweet wines undergo the vinous fermentation, with the extrication of large and distressing quantities of gas; and the more astringent even undergo either the same, from the reaction of the astringent and vegetable matters upon any sugar which they may contain, or their alcohol becomes converted into acetic acid. Hence the burning pain and the acid eructations from which such patients suffer.

The Hotwells, and other waters of Bristol, have been long known and celebrated in diabetic diseases. Both Prout and Marsh speak favourably of them, and assert they appear to quench the thirst in these complaints much more efficaciously

* On the Urinary Organs, p. 77.

* Ατὰρ καὶ ὕδωρ τὸ ποτὸν σὺν τῆσι ὀπώρῃσι ἐψείσθω.—De Cur. Diut. Morb. lib. ii. cap. 2.

† Οἶνοι στύφοντες ἐς τον τοῦ στομάχου τόνον· ἀκρητέστεροι μᾶλλον ἐς την τῶν ἄλλων χυμῶν εξηέρωσίν τε καὶ διάνηψιν.—Ib.

‡ Ἀλμώδεσι γὰρ διψὸς· οἶνος δὲ, στύφων θ' ἅμα, καὶ ψύχων, μεταβολῆ τε, καὶ ἐυκρασίη.

§ Ἐσ δύναμιν δὲ, κἢν οἶνος γλυκὺς, οκοῖος ἅιμα, ἔη, ἐσ τὴν ἀυτοῦ γένναν.

than any other drinks. Dr. Prout states, that he knew a patient labouring under confirmed diabetes, to drink very largely of the Leamington saline waters, without increasing the quantity of his urine, and yet apparently with some advantage to his health. The Hotwells of Bristol contain mostly carbonate of lime held in solution by an excess of carbonic acid. Now it is difficult to explain or even to conceive how these salines act, or, as Prout observes, "whether they really have any beneficial influence; yet, he says, small doses of carbonate of lime or of magnesia, which probably were first recommended on the faith of the beneficial action of the above waters, do occasionally seem to exert a temporary good effect in diabetes, by diminishing the thirst, and through this medium the quantity of drink and urine*." That such waters may occasionally be beneficial, can perhaps be explained upon the principle of the alkaline earths combining with and neutralizing the acids generated in the stomach in such debilitated states of it.

In many cases the addition of a little distilled spirits (brandy, for instance) gives a certain degree of tonicity to the stomach, and prevents that tendency to fermentation to which all the ingesta are so liable upon introduction into the stomach; but after all, perhaps, there is nothing equal to pure water; and the purer it is (even distilled water) the better. I have found that when patients can be prevailed on to adopt this plan, they in general suffer less distress; and Prout states, that such waters agree well he has found by experience.

The various kinds of animal decoctions, better known as broths, soups, teas, may be allowed in cases of great debility and inordinate appetite for food. Milk, too, is a wholesome drink, and I think very often tends to allay thirst, and certainly nothing can be milder or less stimulating to the urinary organs. Aretæus† also speaks of milk, and recommends it to be taken with the food for nourishment. Tea, and more especially green tea, which seems to excite diuresis, should be avoided. I have known many persons disposed to diuresis state that tea, and much more powerfully if green, always excited a most copious discharge of urine; and two or three stated that, so powerful a diuretic did it prove with them, when in society, they could not taste it, as even half a cup produced an immediate and irresistible desire to void the urine. Therefore it is evident that such articles, as excitants of uresis, should be carefully avoided.

Water, however, as the mildest beverage, is the best, and, as a general rule, all the drinks should be taken in a tepid state; first, because, as Dr. Prout well observes, the patient, whose craving is generally after *cold* drinks, will thus content himself with less; and, secondly, they should be taken at those periods, in preference to others, when the stomach is not loaded with solid food*. But there is still an additional reason, and of great importance, why the drink, and more especially if water, should be taken tepid—namely, the nausea which warm water induces, and this serves to relieve the sensation of thirst, and diminishes the necessity for so much drink. It is upon the principle of exciting nausea, also, that the class of emetics formerly mentioned prove useful in nauseating doses; and their agency in exciting the functions of the skin, by which the urinary discharge is reduced, give these remedies an additional claim upon our consideration.

The next subject is the nature of the diet; and various opinions have been entertained upon this question. Some are exclusively in favour of a mild vegetable diet of the farinaceous description; others adopt the opposite extreme, that the diet should be wholly animal, and vegetables altogether proscribed. It is probably evident to you what the grounds are upon which each of these doctrines is founded. They who look upon diabetes as a disease of excitement, or of an inflammatory character, naturally prefer that diet which powerfully tends to relieve or counteract the effects of such a diathesis. The opposite partly establish their doctrine partly upon chemical principles. Urea, a principle containing nearly half its weight of nitrogen, disappears, and its place is supplied by sugar—a principle containing no nitrogen whatever in its composition. Therefore, say they, the patient should be restricted to those articles for diet which furnish in greatest abundance the deficient principle. Both theories have had their advocates, and the practice founded on them has been tried, but in vain—that is, so far as effecting a perfect cure. With respect to an animal diet, Dr. Prout observes, "I have watched the effect of an exclusively animal diet on the urine of diabetic patients. In most instances it seems to lessen the quantity and deepen the colour of the urine, and thus to disguise the *saccharine* matter present; but as far as I have been able to ascertain, it does not diminish the specific gravity of this secretion†." I myself

* On the Urinary Organs, p. 78.

† Τροφαὶ δὲ, καὶ γάλα, καὶ ξὺν τῶδε σιτία, ἄμυλοι χονδροι, ροφηματα.—*De Curat. Diut. Morb.* lib. ii. cap. 2.

* On the Urinary Organs, p. 79.

† Ibid. p. 80.

have paid some attention to this subject, and I am satisfied that a diet exclusively animal does not exert the slightest beneficial influence upon the disease; but, on the contrary, does a great deal of mischief, by inducing plethora and local congestions and inflammations of a fatal tendency—nor unfrequently sudden death. We have already noticed the voracious appetite, and this induces the patient to indulge to a most pernicious extent in a diet which both is agreeable to his palate and agrees well with the stomach. You will often hear a patient say, under such circumstances, "I feel as light again; my water is greatly reduced in quantity; and I now begin verily to believe I shall get well." Fatal confidence! A very short time dispels the mist, and at once blasts all his hopes and expectations. Many, too, who are put upon an exclusively animal diet die suddenly apoplectic. "Indeed, I believe," says Prout, "the greater number of cases of sudden death in this affection (which is by no means an uncommon termination of it) have been distinctly referrible to errors either in the quantity or quality of the food, or both; that is to say, the patient has been generally cut off after a *hearty meal,* as it is vulgarly termed."

Therefore, in determining the quality of the diet, we have two things to consider: first, the tendency to plethoric and congestive diseases; secondly, the proneness to fermentation in the stomach, and to form unwholesome chyme or morbid chymification. The first is promoted by animal food, the latter by all vegetable matters; but by some, in a much more aggravated degree. Upon the whole, therefore, a mixed diet, consisting of animal and farinaceous matters, seems best adapted, and stale bread, and even the coarse hard brown biscuits, used by sailors on board of ship, I have seen agree with many dyspeptics much better than the best fermented wheaten bread. He should avoid as much as possible sweet and ascescent matters and fruits; also what have been termed raw or esculent vegetables, coleworts, &c. Many of these articles contain a large proportion of nitrogen, and upon the animo-alimentary theory ought to prove beneficial; but yet, so far from this, they are found to increase the distress, by the flatulencies they produce, and thus aggravate all the other symptoms. But unfortunately for this theory, it is directly opposed to sound reasoning. Urea—a principle abounding in nitrogen—is deficient, consequently the system is not freed in the natural extent from this noxious agent; therefore, the obvious rule would be to lessen in every way the sources whence nitrogen is derived, and therefore would lead us to a directly opposite conclusion and mode of practice. But further, it may be stated, that even in diabetes a considerable quantity of urea is at times generated and thrown off without any relief of the general symptoms, or alleviation of the disease. Therefore, evidently it is neither the absence of urea, nor the presence of sugar in the urine, that constitute the *summum mali,* and therefore are only to be looked upon as indications of those hidden conditions which produce the effects.

Some variety, too, of opinion has been entertained upon the nature of the animal food itself best suited. Some merely prescribe the ordinary animal diet, while others insist much upon a diet exclusively of animal fat; and it has been stated that very great benefit has been derived from the practice. This, however, might be explained upon very different principles. It is very well known that very few stomachs will bear a large quantity of fat or rich food. Such very soon cloys, and the appetite is satisfied comparatively with a very small proportion of food. Thus, advantage may have been derived from the effect such a diet has upon the appetite, and the quantity taken being thus considerably reduced. In considering diet and drink, the practitioner must direct his attention not merely to the quality, but to the quantity of the food; and that diet and those fluids selected which tend to reduce the distress, and keep the thirst and appetite within due bounds. "Were I to particularize the species of food, I should say generally that mutton or beef plainly cooked, and particularly mutton chops or beef steaks, rarely done, should be taken twice in the twenty-four hours; and that the other meals should consist of any simple article that can be prepared from farinaceous matters, with milk, eggs, &c. only*."

The quantity of food is often determined by the frequency of the meals: thus many who eat but very little at a single meal, yet indulge so often, that on the whole they consume a very large quantity of food. Therefore it is often advisable to regulate the period of meals, and to interdict any indulgence in the intervals. This subject requires but little observation. A regulated quantity may be taken at intervals of five or six hours; but, of course, this will admit of modification; and in the earlier periods of the disease, and in the more acute forms, it will be sufficient to take animal food but once in the twenty-four hours. But there is one thing to be observed—that the circumstances of the case must be taken into consideration.

* Prout on the Urinary Organs, p. 80.

It would be dangerous, when a patient has been for a long time indulging in large quantities of food and drink, suddenly to reduce him to the proper standard; the prudent practitioner, therefore, will gradually, not too suddenly, reduce the quantity, till the due bounds have been attained. In the more chronic or protracted cases, where the strength has been much exhausted, animal food may be indulged in to a much greater extent, and much more frequently, and a little brandy allowed in the water, which perhaps is preferable to wine. With respect to regimen, the patient should be warmly clad; flannel should be worn next the skin, to promote the action of this organ; but, above all, he should be preserved from all mental anxiety, as nothing tends so much to aggravate the disease as a disturbed or excited state of mind. Exercise must be very cautiously employed, for the most serious mischief has arisen from want of caution upon this subject. In the acute forms, sometimes active exercise increases the irritation; and when debility is severe, sometimes syncope is produced even by the least exertion. To assist warm clothing in restoring the action of the skin, warm or vapour baths, with the use of the flesh-brush, are sometimes found beneficial.

We now come to consider whether there be any medicines capable of exerting any, and what peculiar agencies upon this disease. There are some certainly which reduce the quantity of urine, and that very considerably; but this appears to be the principal effect which they have upon the disease. With respect to the morbid qualities, they appear to remain unaffected; and, indeed, it seems very doubtful if there be any remedies that exert a specific effect of this description; if there be, they are not as yet known. Opium not only reduces the quantity of urine, but also greatly diminishes that nervous irritability from which diabetic patients so constantly suffer. Of the preparations of opium, Dr. Prout recommends the *pulvis ipecacuanhæ compositus*, which, he says, proves doubly useful—first, as a urinary astringent; and secondly, from its increasing the action of the skin; but probably the first effect is only a consequence of the second. The dose must depend upon circumstances; but from a quarter of a grain to two grains, two or three times a day, are the most effectual doses. If the Dover's powder, which is certainly the best preparation, be selected, from five grains to ten grains is the dose.

The effects of opium are the reduction of the urinary discharge. The cases recorded by Dr. Prout, and which occurred to Dr. Elliotson, and are also to be found in his work on Prussic Acid, clearly prove the powerful effects of opium in reducing the urinary discharge. In these instances the medicine was given in very large doses. But the advantage of excessive doses seems very questionable. Every possible benefit is to be derived from moderate and well-regulated doses; for it must not be lost sight of that opium, like every other means, is only palliative, and cannot effect a radical or permanent cure.

Opium in its crude form is apt to affect the head, and in many aggravates the symptoms—the irritability, which it is given to relieve. It also produces constipation, and is in many ways objectionable in peculiar idiosyncrasies. In such instances the salts of morphia often answer very well; and I think seem, generally speaking, to be preferable to the other preparations of opium. Of the salts of morphia, the sulphate and hydrochlorate are the best; and either of these combined with ipecacuanha, as in the Dover's powder, forms a very valuable preparation, and can be given when the preparation with opium would disagree.

I have found the acetic extract of colchicum a useful combination, and also an extract of uva ursi: for instance, Mr. P——, whose case was mentioned before, after having been bled to twelve ounces, and had leeches applied to the loins, was directed to take one of the pills prescribed below *, night and morning; and as he complained of a feverish state and dryness of the mouth, a little citrate of ammonia with tincture of hyoscyamus was given twice a-day. I have, too, when the alvine functions have been sufficiently roused, prescribed kino and catechu, as before mentioned, in diabetic cases. This was the case with Mr. P. and I think with a great deal of benefit. In acute cases, we should always be cautious in prescribing opium before we have reduced the phlogistic state by blood-letting, in some of its modifications. Should opium in any form disagree, we must have recourse to other narcotics, and, though greatly inferior, hyoscyamus is next to opium; for which, however, it is to be understood there is no adequate substitute.

With the above, some tonic must be administered, and those which are both bracing and astringent seem best adapted. Iron, therefore, has been long used in such cases, the various preparations of which have each their advocates. Dr. Prout used to give full doses of the *ferri carbonas* (ferri sesquioxidum), made into an elec-

* ℞ Sulph. Potassæ, ℥ss.; Pulveris Ipecacuanhæ, gr. iv.; Sulph. Morphiæ, gr. ij. simul tere ut intime commisceantur deinde adde—

Extract. Colchic. Acet. gr. xv.; Ext. Uvæ Ursi, ℈ij. M. ft. massa in pilulas, No. xx. dividenda; sumat unam nocte maneque.

tuary with white of egg. But to derive the full advantage from iron, it should be given at the *minimum* of oxidation. Therefore the protocarbonate should be exhibited immediately it is precipitated by the process recommended in the Pharmacopœia. Dr. Prout states, that he has seen the very best effects produced by a combination of the compound powder of ipecacuanha and the carbonate, combined together in the form of electuary, in cases of a chronic character, attended with much debility and nervous irritation. As the patient improves, the narcotic should be reduced, and the tonic proportionally increased.

The difficulty of administering the protocarbonate (the efficient preparation of iron) induced me, some time since, to try some of the other salts; and from some statements of Dr. Sharpey, reporting very favourably of the phosphate of soda in diabetes, I imagined that a combination of the phosphoric acid with the oxide of iron might prove more effectual. The phosphate of iron may be readily formed by double decomposition—that is, by mixing together solutions of phosphate of soda and sulphate of iron: the phosphate of iron which is formed precipitates, and the sulphate of soda remains in solution. The ferruginous phosphate may be given in the same doses as the carbonate. I believe, however, that the sesquichloride, or rather the tincture of it, is as valuable and efficacious a preparation as any. We may begin with ten or fifteen minims three or four times a day, and which may be gradually increased to a drachm or more; with which a solution of morphia, or some fluid preparation of opium, may be usefully combined. I need scarcely observe, that the various other metallic tonics and astringents have been tried, but none have succeeded in effecting a radical cure. All that we can hope for is merely to keep the urgent symptoms in check.

The disulphate of quina has been much recommended in diabetes, where there is much debility; and, of course, as a very excellent tonic, would prove so far serviceable in diabetes. Various saline remedies, as the phosphate of soda, have been much recommended, and have been said even to have effected a cure. Whoever confides much, however, in any of these means, or expects a radical cure from them, will be, I fear, doomed to disappointment. Dr. Prout states, that out of twenty cases which had come under his observation during six or seven years, he met with but one instance in which the urine became perfectly natural; and in this it remained so but for a very short period. I myself, though I have very closely attended to all the cases of diabetes which have come under my observation, never yet met with one in which the urine became perfectly natural, or even nearly approached to the natural state.

Tabes diuretica, or urinary emaciation of children.—There is a disease which attacks the urinary system of children, and which, I believe, has not attracted the notice it deserves. It is attended with considerable emaciation, and many anomalous phenomena, which render it of importance both in a pathological and therapeutical point of view. I brought it under the notice of the profession some years since, and I do not know that any one else has since mentioned it, with the exception of Dr. Willis. Children, from the age of six months and upwards to twelve or fourteen years, are most frequently the subjects. I believe many of the cases of atrophy which present to us, are of this character. In children of very tender years it is not probably much observed; but as they advance in age, the calls for passing water become urgent and irresistible. It often happens that the urine is voided during sleep, and the unfortunate patient is frequently blamed—often punished—very unjustly for a wilful crime. It should, however, be recollected, that this is a very harsh and a very unjust mode of proceeding, and as unreasonable as it would be to punish for the involuntary discharge of the urine and fæces in the coma of fever.

The first thing that attracts the notice of the attendants is, that the child begins to emaciate and look very ill; the features become sharpened; the nose pointed—or "peaked," as they most usually term it; and the face assumes a pale, squalid, or sallow hue. The abdomen becomes tumid, and sometimes extremely prominent, and feels hard and tense to the touch. The appetite is variable, sometimes good, the child eating *hearty*, as the nurse describes it; sometimes indifferent, or even a loathing of food comes on; but, generally speaking, the appetite is not defective. But an insatiable thirst almost always attends; yet perhaps the patient does not absolutely call for drink when it is not in sight, but no sooner sees it than an irresistible craving for it impels to its use. In other cases, however, the thirst is urgent, and must be gratified: thus you will see children calling for drinks, and no sooner have they been indulged than their calls are renewed, and the attendants will tell you that "they do nothing but drink, drink, drink, all day long." As the disease proceeds, a true marasmus supervenes; frequently the mesenteric glands become affected; or the rickets, or some other bad form of scrofula, shews itself. It is not my intention here to enter upon a lengthened

description of this disease, because, for a more detailed account I will refer you to my Essay on Diabetes. I shall, therefore, in this place merely enter generally upon the subject, and now lay before you the general characters and properties, and the mode of treatment.

The urine presents various characters, and perhaps the only invariable one is the inordinate quantity in which it is voided. The quantity, though always in excess, varies in different instances. I have known children, from two to four years of age, passing eight or ten pints of urine in the day. Sometimes it is of very low specific gravity, and yet contains urea in sufficient quantity to crystallize with nitric acid. It is then mostly pale coloured, and the crystals pearly. In many cases of this sort you will find the urine quite colourless and transparent; but on boiling, it becomes opalescent. It is possible to mistake this for chyle. I here present you with some urine of this description, passed by a child two years and a half old, a patient at the dispensary, and known to some of you. This child seems to be labouring under the disease now under consideration. When I heat this specimen, as you see, it becomes turbid, and hence you might suppose this to arise from the presence of albumen. But, as I have already explained, it arises from the presence of carbonate of lime, held in solution by excess of carbonic acid, and you will see that it will be rendered perfectly transparent again by a drop or two of the acetic, nitric, or hydrochloric acid,—as you see; and effervescence is produced by the escape of the carbonic acid. The cloudiness first arises from the heat expelling the excess of carbonic acid which held the carbonate of lime in solution. It is stated, that in mollities ossium the lime passes off with the urine, in combination with oxalic acid. I never could observe any thing of the kind in the turbid urine, sometimes resembling a mixture of chalk and water, and it seems to be rendered so by the mechanical suspension of phosphate or carbonate of lime, but more frequently the latter of these. In rickets, however, the carbonate seems to be held in solution by excess of carbonic acid.

In many cases there is a greenish tinge; this seems to be owing to the presence of bile reacted on by hydrochloric acid, and therefore is not indicative of the oxalate of lime diathesis. In other cases the urine is deeper coloured, of higher specific gravity, and contains considerably more than the natural proportion of urea. It is in such cases that the patient frequently passes the urine unconsciously during sleep, and, indeed, often is supposed to labour under incontinence of urine; nor can the patient, when once the call has taken place, resist till a suitable opportunity occurs.

An almost invariable character is an excess of urea. When the quantity of urine is excessive, the excess of urea may not be indicated or sensible to the ordinary examination. It may then be necessary to concentrate a portion, and ascertain the quantity of crystals to be obtained from the concentrated urine: that is to say, we must estimate the absolute, not the relative, quantity of urea passed in a given time, and from this draw our conclusions. With a less quantity of urine the urea is readily crystallizable by the ordinary methods, but with a larger quantity of urine, the urea remaining the same, concentration may be necessary to effect the same result. For further details I would refer to the work already mentioned, and shall now proceed to state merely the treatment.

In the treatment of this disease it is as necessary to study how we may avoid mischief, as much as how we may do good. Many have resorted to urinary stimulants, as cantharides, turpentine, &c., and by such means have done much mischief. The first thing to be considered is the nature of the existing conditions, and the derangement of the functions, and our first means should be directed to the correction of these. Having bestowed the due degree of attention here, we have next to consider how we may reduce the inordinate quantity of urine, and correct its morbid conditions. There is no remedy known to me which has a greater influence in this respect than the preparations of iron; and of these the best suited are the protocarbonate of iron, the phosphate, and sesquichloride. I have tried all the other mineral tonics, but none seem equal to iron. It is not always easy to get children to take these remedies; the sesquichloride is nauseous; the protocarbonate and phosphate, as insoluble, must be given the form of electuary, to which some children are much averse. I have, in some such instances, substituted the potassio-tartrate of iron; and although this remedy possesses diuretic properties, I have not found this an objection. With the iron, opium, or its more active principle morphia, or some other narcotic, may be combined. Ipecacuanha, or some of its preparations, seems often a useful and efficient adjunct. When there is any thing like incontinence, perhaps we could not do a worse thing than exhibit turpentine, cantharides, &c. The uva ursi I have always found a much more suitable astringent. There are several vegetable remedies of a similar operation; such are the Alchemilla arvensis, pareira, pyrola, colchicum, &c. These, combined with narcotics, relieve the irritation of the

bladder and other portions of the urinary organs, upon which the diuresis in these cases very often depends. The extracts of the remedies above mentioned are astringent, indirectly so at least, by relieving the irritation upon which the diuresis depends. By way of a demulcent, and so far a means of relieving irritation, perhaps nothing is better than a combination of the mistura amygdalæ with the compound tincture of camphor. But, above all, let me advise you to attend carefully to the diseases of children, and to their differences; and perhaps the words of Hippocrates could not be more appropriately applied than upon the present occasion:—Ει δὲ πολλαχὶς οὐρέοι, ἢ, τι τουτῶν προσγινοιτου, δεινον,

We shall next proceed to Calculi.

NOTES OF

CLINICAL OBSERVATIONS ON FEVER.

By Chas. Lendrick, M.D. T.C.D.

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[Concluded from p. 108.]

Necessity for cleanliness—Means of insuring this—Prevention of excoriations—Methods of treating this where it occurs—Different kinds of poultice—Hydrostatic bed—Retention of urine—Necessity for catheterism, and mode of effecting it—Management of convalescence.

Want of due attention to cleanliness during typhus fever exposes the patient to a double risk—that consequent on the irritation caused by discomfort and the foul odour around him aggravating the symptoms of his disease, and sufficient, in a case otherwise doubtful, to turn the scale against recovery—and that arising from the tendency of such a cause to produce cutaneous irritation, excoriation, and, ultimately, bed-sores. Nothing is more likely to contribute to the latter occurrence than the contact of filth, stale perspiration, or urine. The requisite precautions as to these matters cannot be entrusted with safety to ordinary nurse-tenders. So long as the patient is, as the phrase is, "notice taking," very gross negligence is not likely to occur; but when he becomes no longer conscious of the calls of nature, and the urine and fæces are discharged involuntarily, the arcana of the sick bed ought to be daily inspected by the physician in private practice, or by his clinical assistant in the hospital, so that the filthy concealments on the part of the nurse may not prove the means of marring the endeavours that he is making for the patient's recovery. The body should be carefully cleansed, under superintendence, with a sponge and tepid water. The sponge is, however, often a mischievous instrument, and by its coarse use is likely to produce the very consequences it is intended to prevent—excoriation of the surface. Both it and the drying towel must be used in the most gentle mode, by pressing and withdrawing, and carefully avoiding any rubbing or sliding movement. Where the evacuations are discharged unconsciously by the patient, a piece of oiled silk, a yard square, ought to be stitched to the under sheet of the bed, and covered with half a dozen folds of linen. The latter should be removed after each evacuation, carefully cleaning the parts, and the oiled silk, as well as the sheets of the bed, changed daily. An open oiled silk bag, filled with a large sponge, ought to be placed under the orifice of the urethra, and removed as the sponge becomes soaked with urine. No compression or mode of restraining the urinary evacuation ought on any account to be had recourse to.

Stripping, or, in other words, excoriation, followed by ulceration and sloughing, is liable to occur not only as a consequence of blisters and other local stimulants resorted to for the purpose of rousing the dormant powers of life, especially where the sores are neglected, but also as the result of mere pressure and cutaneous irritation, acting on parts devoid of their usual vitality. Any degree of redness or lividity on the surface of the body ought, therefore, to be met by the simple precaution of causing the patient to lie off the affected part. If this precaution fail, we may rest assured that the preliminary symptoms of stripping are not undeserving attention. In such cases, the practice adopted at Mercer's Hospital is often successful—that of causing the patient to lie on soft flannel instead of linen, so as to absorb the stale perspiration. Should the use of the catheter be necessary, especial care is to be taken to avoid spilling the urine so as to come in contact with the skin.

The best preventive of stripping with which I am acquainted, is what is called by the druggists "spirit varnish," prepared, I believe, from gum sandarach. About the third part of its bulk of myrrh ought to be dissolved in it, and the varnish applied by means of a large soft camel-hair brush. It dries in a few minutes, so that three or four coats may be applied within a quarter of an hour. The patient may then use greater freedom with the part, which is not only protected by the coating of varnish, but receives from its ingredients a stimulus favourable for the prevention of sloughing. The so-

lution of nitrate of silver has been strongly recommended: it, however, in some cases irritates considerably, and rather favours than prevents the formation of bed-sores. It is often useful as an application (in the concentrated form) where the patient is violent and intractable, and where, other treatment being out of our power, a caustic eschar is likely to be a less evil than an irritated excoriation. Anxious as I am to prevent any breach of the skin, I never use the nitrate of silver as a mere preventive, nor do I think that it is possessed of any superiority over less precarious applications, except where used in the mode and under the circumstances I have mentioned. When excoriation has once taken place, the best plan is to keep the patient (if practicable) from lying on the part, and to dust it occasionally with the oxyde of zinc of the Pharmacopœia, which, if "prepared," is much superior to starch, &c. When this treatment fails, the excoriated surface ought to be covered with a piece of chamois leather double its size, and recently spread with soap plaster. The margin of this plaster is to be covered by an adhering cushion, formed of flat annular layers of adhesive plaster, including a strip of lint between the layers. Thus the pressure is kept from the surface of the excoriation itself. After ulceration has occurred, the best dressing is a piece of lint dipped in warm port-wine. It ought to be covered with an annular plaster-cushion, as just described, and a circular piece of plaster laid over all. The latter may be raised daily, so as to permit the port-wine dressing to be changed.

Poultices can never be applied with advantage where the patient is obliged to lie on the excoriated or ulcerated surface. Where the sores are so extensive that the patient must lie on some diseased part, that on which he lies ought to be treated in the way just described, and a poultice applied on the parts that are not compressed; since, to apply a poultice to the under surface is, in fact, to cause the patient to lie on a mere poultice-cloth—by no means a soothing application. Three ounces of sifted oatmeal, and one ounce of fine linseed meal, will make a poultice six inches broad. The meal ought to be rubbed with rather less than double its quantity of cold water, and it may be boiled to the requisite consistence in about five minutes. The turnip and carrot poultices are best made by substituting for a part of the meal the pulp of boiled turnips, or of the red part of carrots, previously rubbed through a sieve. The charcoal poultice is a filthy application, and owes its reputation more to theory than experience: if used, it ought to be made from the "prepared" charcoal of the Pharmacopœia. These directions are indispensable, as grittiness or shreds in a poultice cause it to do more harm than good. Indeed, every thing connected with poulticing, whether as to the preparation or mode of application, requires accurate superintendence, and the readiness of contrivance only to be acquired by hospital or private practice. Pupils who neglect the opportunities afforded to them for this purpose at Sir Patrick Dun's and Mercer's Hospitals are left without excuse for their ignorance.

Port-wine and water, porter, or wort, in the process of fermentation with yeast, are frequently used in sloughing cases, to form the poultice, instead of water. With the same object, it is generally the practice to apply, between it and the slough, a piece of lint dipped in elemi and turpentine, Peruvian balsam, port-wine, dilute solution of the chloride of soda, or solution of morphine; according to the character of the ulcer as to sloughing, fœtor, or irritability. The practice in such cases must often be empirical, one remedy succeeding when another of higher reputation has failed. After the slough has separated, the best dressing is dry lint, provided the sloughing process seems to have terminated, and that the surface of the ulcer is clean and disposed to granulate. The lint must be allowed to detach spontaneously, and on no account be forcibly separated. I have succeeded in treating excruciating blister-sores, which had resisted every other application, by means of pledgets of lint dipped in an opiate solution, and allowed to adhere for a month or more, the edges being clipped as they became detached. This mode of treatment is nearly that of burns, by means of cotton wadding—a plan that often answers extremely well with bed sores. In some cases, however, all other modes of treatment fail, and, in order to save the patient, we must have recourse to the hydrostatic bed. Not only bed-sores, but also numerous cases of sloughing erysipelas, extensive burns, and gangrene consequent on injuries of the spine, have been successfully treated by means of this apparatus, at Mercer's Hospital, and which I firmly believe would have otherwise proved fatal—drawing my inference from the termination of similar instances of disease or injury. This single invention would, indeed, entitle Dr. Arnott to the name of a benefactor of the human race.

The principle of the hydrostatic bed is to enable the weight of the body, which must be supported by some means, to be diffused over an extensive surface, with, of course, a corresponding diminution of pressure within any given space. Soft beds become hard by the continued pressure on their soft material; and air-cushions, by the compression of their air,

are converted into tense surfaces; thus they often do more harm than a hair mattress. The peculiarity of the water-bed is, that the patient rests on a loose cloth, the water rising to a certain height only. If the cloth were tense, the apparatus would be as useless as the air-cushion. The sinking produced in the latter by the compression of air, takes place in the hydrostatic bed by the displacement, to a certain extent, of the free and incompressible fluid; the cloth not in any way supporting the weight, but merely preventing the body from being wetted, and permitting it to float, with a pressure slight in proportion to the extent of the surface below the level of the water. By the experiment I shew to the class, it appears that the pressure, even on the under surface of the body, is scarcely greater than that of an ordinary poultice or a surgical dressing-bandage; so that the entire surface above and below is placed under almost equally advantageous circumstances as to the chance for the completion of a healing process.

Hydrostatic beds are at present regularly constructed by artificers. In remote districts, one can easily be contrived by means of a large tub, and the India-rubber cloth now so readily procured. For the reasons already stated, the cloth must be large, so as to lie loosely and in folds over the surface of the water; its edges being merely tacked to the tub, to prevent them from falling into it. Several folds of soft blanket should be placed under the body. This is better than the mattress generally used, and prevents the patient from being incommoded by heat or cold, for these opposite sensations are often complained of. The annoyance of the sinking of the parts of the body near the shoulders is removed by placing an air-cushion or a pillow-case, filled with blown bladders, under the blanket. This diminishes the specific gravity of the weight immediately superincumbent, and the patient may thus be raised nearly to a sitting posture, if desirable. The air-cushion does not act here as on a common bed, by the tenseness of its surface, the included air being very slightly compressed, on account of the yielding nature of its fluid substratum; thus the pressure on the patient's body is only equal to that on the cushion by the water. Patients often feel relief from occasionally being removed to a common bed. The better way is to alternate the mode of rest; having recourse to the hydrostatic bed on the aggravation of the ulcerative process, and removing the patient to a common bed, if desired by him, on its amendment to a certain degree.

Bed-sores occur in many cases besides those of fever; wherever, indeed, the patient is bed ridden, and the local circulation and nervous energy are deficient; especially if emaciation be present. The same remark applies to retention of urine, the last subject for consideration among the three specified in page 108.

Retention of urine, or Ischuria vesicalis, as it is termed by Cullen, attends on several diseases, and is often a primary affection. Symptoms resembling those of typhus fever, or of apoplexy itself, are produced occasionally in persons otherwise healthy by such retention merely. Hence it may be inferred, that the danger of a patient already labouring under one of those diseases, must be aggravated in no slight degree by the supervention of an occurrence in itself capable of producing consequences similar to those under which he suffers. Medical practitioners would, indeed, be much seldomer caught napping, if it were made a rule to examine the urine daily passed, throughout the entire period of fever and other diseases. Thus suspicion would be excited in time; for it is to the want of suspicion at all, and not to mistake about the matter suspected, that such errors are generally to be attributed. I have found nearly half a gallon of urine, after death, in the bladder of a fever patient, where retention had never been even suspected, and where the nurse "reported" most favourably as to that evacuation. Almost that quantity has been drawn off by the catheter, in the living patient, where both he and the nurse insisted that the urine was regularly passed. Whenever, indeed, it is said that the urine is "very often" discharged, the great probability is, that the cistern is overflowing. In short, much mischief and loss of professional reputation may be avoided, by insisting on all the urine that can be procured being kept for inspection, so as to be aware, from the diminution of the usual quantity, that retention is likely to occur; and also, by daily examining the state of the bladder. This examination is not a difficult matter. When the bladder is distended it forms a tumor, which, as it rises mesially, and immediately above and from behind the os pubis, can scarcely be confounded with any other. In corpulent persons the distended state of the bladder can in general be detected by the dull sound just above the pubis, as compared with that over the rest of the abdomen, on percussion being made by striking the fingers laid on its surface. As I have already remarked, however, the great thing is to suspect the existence of retention of urine, as, in a doubtful case, it is better to introduce the catheter unnecessarily, than to delay its use when requisite.

Dexterity in the use of the female

catheter is generally considered indispensable in the physician-accoucheur; and a knowledge of the mode of introducing the male instrument is equally necessary to the medical attendant, during fever and other diseases, in which retention of urine frequently occurs. Moderate attention to the opportunities which almost every pupil possesses at the present day, will enable him to afford relief in the great proportion of cases, without doing injury or increasing the difficulties in the rest. A flexible catheter, of the size about No. 5, curved by keeping it on the wire, is the best for general use. It ought to be of the very best quality, as, if devoid of proper firmness and elasticity, it is with difficulty made to slide along the upper surface of the urethra, where it passes under the pubis—a manœuvre in the gentle accomplishment of which the distinction between dexterous and awkward catheterism in ordinary cases generally consists. Authors dwell, and very justly, on the importance of acquiring the tact of judging whether the instrument is bending or advancing; also of not pressing it against any obstacle, but of waiting for spasmodic resistance to subside; and of changing the direction of the point so as to avoid the sinuosities of the passage, and the elastic impediments they occasion. To these rules may be added that of preserving the concavity of the instrument upwards (in the anatomical sense of the word,) and of preventing the inclination it often has to turn in a lateral direction.

By watching a mark placed on the handle of the instrument corresponding to its concavity, and by keeping this upwards on renewing the attempt, such an occurrence may be rectified. Sometimes it is easier to introduce the silver male catheter than the flexible. Like the other, it must be held very loosely, and almost allowed to find its own way, sliding along the upper and convex surface of the urethra, without hitching on it. All the difficulties of ordinary catheterism, and the mode of surmounting them, can be learned on the dead body, with the exception of spasm, which is to be overcome, merely by not resisting it. The operation on the female can also be learned, and perhaps still better than the other, on the dead subject, the eyes of the operator being closed. The same gentleness and feeling of the way is requisite, as in the case of the male urethra, and the flexible is the better instrument.

Where, in fever or any other disease, retention of urine is attributable to mere debility, and no symptoms of excitement are present, there ought not to be any hesitation as to immediately drawing off the fluid as soon as its accumulation is ascertained, and that an enema and fomentation to the pubis have failed in procuring an evacuation. If the operation prove difficult, it ought to be recollected that persons suffering from organic disease of the urethra are as liable as others to fever, and the diseases in which retention usually occurs. This consideration ought to make the operator careful not to convert, by perseverance in ineffectual efforts at catheterism, a difficult case into an unmanageable one. Even where the result of investigation shews that the patient is free from stricture, &c. the delay of an hour, by allowing the irritation caused by the previous attempt to subside, will render the operation much easier, either in the same or other hands.

If the power of evacuation does not return after the introduction of the catheter, it will, in the average of cases, be necessary to draw the urine off twice daily. Sometimes the bladder refills so slowly that once may be sufficient. On the other hand, the secretion is occasionally so rapid, that the catheter must be introduced thrice, or oftener. This necessity is, however, to be judged of by the state of the bladder, and not by the patient's sensations, as sometimes the irritation of the instrument causes, on its withdrawal, a *nisus*, resembling a call to discharge the urine, and which, it is obvious, ought not to afford grounds for repeating the operation. Where it is necessary to draw off the urine frequently, or where the operation is difficult, or attended by much irritation, it may be preferable to keep the catheter in the bladder till the power of evacuating the urine returns, especially if it do not thus prove a source of irritation, and if frequent recourse to professional assistance be inconvenient. For this purpose the flexible catheter should be retained by means of a linen compress on the perineum, covered by a T, or rather X bandage, so as to admit of the fæcal evacuation being performed. The end of the tube (plugged) is to be tied to the girdle of the bandage, and (if the patient be a male) the penis is to be kept in the same position by means of a strip of linen properly pinned. This is one of the best contrivances I know of, and the least likely to cause irritation. If it do so, the catheter must be withdrawn, and introduced as required.

Retention of urine sometimes, however, exists in what is called *sthenic* form, with excitement, spasm, or inflammation, as an attendant on the inflammatory forms of fever, abdominal inflammation, hemorrhoids; and often as a primary affection. The diagnosis of such cases is by far more difficult at the bed-side than books represent; and it is often a very nice matter

to distinguish, whether the retention of urine has produced the symptoms of local and constitutional distress; or whether these are primary in their nature, and the source of the retention. Where there is not any reason to suspect the existence of stricture, and that the sufferings of the patient are recent, proportional to the increased distension of the bladder, and rather permanent than characterised by paroxysms of pain and spasm, there is reason to suppose that the former is the case. If, on the other hand, the patient labours under stricture, or the previous symptoms induce a suspicion as to its existence; if the spasmodic paroxysms are violent, and if they took place before the bladder became much distended, there is good reason to suppose that the retention depends on causes not likely to be subdued by an attempt to introduce the catheter, unless with the precedence of soothing measures; and that the attempt, however gently made, without such precautions will be more likely to prolong than relieve the patient's sufferings. Instead, therefore, of trying the catheter at once, which is the most obvious mode of relief in the first-mentioned class of cases, I recommend an accurate investigation of the circumstances aforementioned; and in the second variety, to have recourse to soothing measures to an extent proportional to the development of its characters, especially if instruments have already been tried in vain. These measures are, a large enema of warm water, followed by a small one containing opium; venesection, if decided inflammatory symptoms have preceded the retention; fomentations to the pubis and perineum; leeches to the latter; the semicupium (formed of a common tub); castor oil, followed on its operation by a dose of opium; tincture of muriate of iron, twenty drops every half hour; and the total immersion of the body in the hot bath. The measures first mentioned require but little time for their application and effect; and as the delay of an hour can scarcely do harm, they may be had recourse to in almost every doubtful case, as rendering the success of catheterism more probable, and perhaps preventing the necessity for it at all. Where a patient obtains relief without the use of instruments, the urine is not in general discharged at once, but oozes from time to time. This oozing is not to be confounded with the overflowing of a distended and paralyzed bladder. The discharge in the former is, to a certain extent, under the patient's command, is followed by relief, and the bladder is found to become smaller and softer; whereas, in the stillicidium urinæ, the bladder retains its state, the evacuation is almost or altogether involuntary, and the sufferings of the patient remain unabated, if he does not become comatose or delirious.

When a patient has become convalescent from fever, the difficulties of his medical attendant are often greater than before; as alarm being now over, the requisite directions are submitted to with greater hesitation. It, indeed, not unfrequently happens, that all the ground gained by judicious treatment is lost at this time, and life along with it, by imprudence on the part of the patient or his friends. In hospital practice, the restorative dietary is usually divided into what is termed the "convalescent," from which animal preparations are excluded — the "middle," which includes light broth— and the "full," consisting partly of solid animal food. A similar gradation should be pursued in private practice, preserving the same simplicity of nourishment, and avoiding complex articles. Well-made flummery or baked apples, chicken-broth, and boiled chicken, with a moderate allowance of wine and water, may constitute this gradation; and it is well to confine the patient to this simple dietary, till his capability of digesting and assimilating nutriment without unduly stimulating the system has been determined*. As a relapse is always to be dreaded more than the original disease, the patient's appetite is not only to be restrained, but, on the occurrence of any foulness of the tongue, headache, shivering, or other symptoms which usually usher in fever, he ought at once to be restricted to low diet, and confinement to bed. Should the symptoms continue, a gentle emetic ought to be administered, and the treatment requisite at the commencement of fever had recourse to.

I have already remarked, that the accessory causes of fever are in themselves inadequate to its production, although they powerfully aid contagion or pestilential agency (which are to typhus fever what an external injury is to constitutional irritation), in rendering the patient more susceptible of their influence, as well as in modifying the type of the future disease, or superadding organic affections. Thus cold, fatigue, &c. will cause a patient to be attacked by typhus fever, who might otherwise have escaped the effects of contagion; and as exposure to the vicissitudes of weather is in itself liable to cause inflammation of the respiratory organs, so when, in addition to this, the peculiar causes of typhus fever are in opera-

* A more liberal allowance of nourishment is of course requisite in sloughing cases, together with bark, &c.

tion, we find pneumonia, &c. combined with typhus, especially in those already predisposed to pulmonary affections.

The existence of contagion* is at last almost universally admitted; and from what has been remarked in the foregoing observations, it must be obvious that the plan generally recommended (but not generally acted on), of avoiding exposure to both the peculiar and accessory causes of fever, is indispensable for safety. Persons exposed to contagion ought to avoid cold, fatigue, mental anxiety, &c. as much as possible; and reciprocally, those who are already exposed to the influence of cold, &c. or any bodily indisposition, ought to avoid undue exposure to contagion. It is certainly the duty of the medical man to undergo any risk that is necessary for its performance, but not to go further; and therefore exposure to contagion should be as little, and for as short a time, as is practicable consistently therewith. The patient's breath ought to be carefully avoided; and whenever it is necessary to examine the surface of the body, the clothes should be previously thrown back for a short time, so as to allow the first and most noxious effluviæ to escape. Stethoscopic examinations are useful in a much less proportion of cases than pupils suppose. Where there is any respiratory affection, percussion may be advantageously substituted; for, till some dulness of sound is perceptible, stethoscopism is generally unnecessary as accessory to treatment, inasmuch as a concurrence of the signs of pulmonary inflammation are requisite, before bleeding, tartarized antimony, or mercurialism, would be justifiable, where typhus fever is present. The stethoscope ought to be fourteen or fifteen inches long. With such an instrument I can hear the morbid sounds in the chest as well as with a shorter. Some persons, however, cannot be satisfied without nuzzling among the sources of infection.

The preceding observations on fever have been written from the notes of my clinical lectures at Sir Patrick Dun's Hospital, not only according to the sense but the words, as far as I can recollect; and at the request of some of my pupils there and at Mercer's Hospital, who wished that they might be rendered more available for their instruction than as mere oral, and occasionally unconnected remarks†. I have not dwelt on post-mortem appearances, which shew the effects of diseases occasionally coexisting rather than the effects, and still less the cause or essence of fever itself. As, after the constitutional irritation produced by external injury, so, after the typhoid disease consequent on contagion and pestilential agency, where organic disease has been called into operation, almost every variety of organic change is discoverable on dissection, and as such changes do not usually present any marked difference from the results of similar diseases when unconnected with fever, the notice of them appropriately belongs to another occasion. It is the principal opprobrium of medical science, that its votaries generally seem determined to follow up the investigation of one of the sources of disease to the disregard of the rest, as if the site of disease were to be found for a time in the solids, for a time in the fluids, and then in the untangible vital principle itself, instead of being referable to a morbid change always existing in the latter, and occasionally in the two former. The consequence of the exclusive mode of investigation has been, that nine-tenths of the results of the talent and industry expended on it have actually gone for nothing. I therefore recommend my pupils not to be led away by amusing speculations while engaged in pursuits so arduous and occupative of time as the medical; but to clear away the rubbish from their path, by dismissing every consideration which does not afford at least presumptive prooof that the investigation, if followed up, may be rendered available for practical purposes.

* See Dublin Medical Journal, Jan. 1836, page 418.

† For the sake of brevity I have not specified the cases.

PHYSIOLOGICAL PROBLEM.

By William Griffin, M.D. Limerick.

Does suffering necessarily imply consciousness? Are sentient beings necessarily percipient?

NO. IV.

If it were impossible for me to offer the slightest explanation of the opinion that sensation (by which I mean feeling, in the popular sense of the term), is different from, and may exist independent of perception, consciousness, or knowledge—if the division of a sentient being into two separate independent existences was as inconceivable as the division of a conscious or percipient one, I should scarcely believe myself the less bound to admit the clear inferences deducible from the extraordinary facts stated in the course of this inquiry. It has been incontrovertibly

determined that perception, thought, memory, consciousness, and the intellectual functions, are connected with the cerebral lobes, and disappear with their removal. Yet after their removal, and when no parts are left above the corpora quadrigemina, and in amphibia and cold-blooded animals even after decapitation, signs of sensation and suffering, and even spontaneous actions, are observed to take place, to doubt the reality and dependence of which would be to discredit the instincts and intuitions which make part of our very nature.

I cannot but think that sufficient has been already said to convince the reader, if not of the absolute existence of the distinctions proposed between sensation and perception, at least of those distinctions being conceivable. That they are so I can give no stronger proof than is offered by Reid, in his metaphysical speculations on the subject. "If nature," he says, "had given us nothing more than impressions made on the body, and sensations in our minds corresponding to them, we should in that case have been merely sentient, but not percipient beings. We should never have been able to form a conception of any external object, far less a belief of its existence. Our sensations have no resemblance to external objects; nor can we discover by our reason any necessary connexion between the existence of the former and that of the latter. We might perhaps have been made of such a constitution as to have our present perceptions connected with other sensations. We might, perhaps, have had the perception of external objects, without either impressions upon the organs of sense or sensation. Or, lastly, the perceptions we have might have been immediately connected with the impressions upon our organs without any intervention of sensations. This last seems really to be the case in one instance—to wit, in our perception of the visible figure of bodies."

It did not occur to Reid how truly he was depicting the character of a large class of animals in these speculations of what he conceived as merely possible. The animal creation may perhaps be properly considered as including three classes of organized beings. Those with insentient or ganglionic nerves only, and whose organs perform their functions without feeling or consciousness on the part of the individuals, as the heart and bowels do in man—if, indeed, any such simple organizations exist even in the lowest type of animals.

Those, again, described as possible forms of existence by Reid—the pure sentient organizations — animals possessed of a spinal cord, evincing obvious signs of sensation, and displaying actions evidently resulting from and dependent on such sensation—animals possessing appetites and instincts, and apparently sensible to pleasure and to pain — animals whose lives are but chains of momentary feelings, successive but independent of one another, who, possessing no faculty of perception or memory, have no consciousness either of their own existence, or of the existence of the world about them, and who, having a simple organization, throughout which a single sense is equally diffused, admit of being multiplied by division into more numerous existences.

And, finally, those to whose spinal cord a brain is superadded, to whose sentient existence a percipient and conscious one is attached, whose life is not made up, as in the sentient being, of a thousand separate existences—a thousand transitory sensations, which, though succeeding each other in one organization, come into being and die without any absolute relation; but is impressed with a sense of continuity and individuality by new and extraordinary faculties, which perceive and detain and record every fleeting sensation, and which can recal, and examine, and compare, and dismiss them at pleasure. It may be said, indeed, that the life even of a mere sentient being has a sort of continuity; the series of sensations of which it is made up are connected; it can hardly be called related, by its organization; and there is no period, however short, while that organization holds perfect, in which sensations are not experienced. But it is an animal living always strictly in the present, no moment of its existence having a conscious relation with the past or future, any more than if each single one belonged to a distinct and different individual. The life of the animal with brain, on the other hand—of the perceptive conscious animal, is connected from its earliest to its latest period, in all its pains and pleasures, by a memory which recals them

at a moment, and an intuitive conviction that they have been experienced by the same single being which recals them.

In this view it may be said, that in all the higher classes of animals, the organization is made up of three distinct forms or types of existence, each wholly independent of that which has succeeded or is superadded to it. It is no slight proof of the truth of this hypothesis, if such it may be called, that the independence of these three distinct modes of life may be illustrated by actual analysis, as Magendie, Fleurens, and Bouillaud, have shewn; that the percipient organ may be destroyed, leaving the sentient and ganglionic organization uninjured, and the sentient may be destroyed, leaving the insentient or purely vital functions actively proceeding; that, in fact, as an animal is built up, so may we contrive carefully to unbuild him again.

Take away, for instance, the anterior lobes of the brain, or let them be compressed or rendered useless by an apoplectic attack, and the conscious percipient portions of the being are extinguished, while the purely sentient and organic remain. This may, perhaps, be held as mere assumption with regard to the apoplectic; since, if signs of sensation are evinced, there are grounds for supposing that some degree of consciousness remains: but in the case of ablation of the brain, or of the brain never having been formed, as in the animals experimented on by MM. Magendie and Desmoulins, in the acephalous fœtus, there can be no doubt as to the absence of consciousness, unless we doubt that the brain is the organ upon which that faculty is dependent. Yet signs, apparently the most indisputable, of the persistence of sensation, are freely displayed. "When, after having opened the cranium, all the parts of the cerebrum, the optic lobes, and the entire cerebellum, are cut away, the animal continues sensible to all the impressions which have their seat in the face, excepting that of sight. It continues to be as vividly affected by sounds, odours, sapid substances, and punctures of the face, as if it experienced no other inconvenience than that which results from the mere loss of blood. It cries if a hair of its whisker be plucked, or if a strong acid be applied to the nose, and endeavours, with the paws, to remove any source of irritation, as it would do if it had not been mutilated *."

It may be naturally asked, when the phenomena so generally attributed to perception and volition are so strikingly exhibited in animals mutilated in the manner described, why we should deny them these faculties, or look upon them as no longer conscious but sentient beings? Such a question may, perhaps, be most aptly answered by another. Supposing the definitions of perception and volition, of sensation and sentient action, already offered, to be correct, what phenomena should we expect to disappear on removal of the conscious or percipient organ? The animal should lose its memory, its powers of association, its recognition of objects, its knowledge of or connexion with an external world, its incentives to actions. If it felt hunger, or thirst, or cold, it would lie still and suffer, having no perception either of its wants or the means of relieving them. It would hence remain inert, and as if in profound stupor, unless excited by the stimulus of physical agents in contact with it, or by such causes as usually call up instinctive muscular movements. It would, on stimulation, display all such actions as are most closely linked with pure sensations or instincts; the amount or extent of such actions being very much determined by the amount or degree in which the conditions essential to the performance of the functions of the spinal cord are interfered with in each particular animal, by the mutilation or decapitation. In the cold-blooded animals, we know them to be interfered with very little, and in the earthworm and polypus, which have no brain, and in whom instincts stand in the place of perceptions and volitions, still less.

Let us now compare these supposed results with those which have been found actually to take place on ablation of the brain in animals which have survived the operation. I cannot refer to a more striking or satisfactory experiment than that of M. Fleurens on the chicken, already mentioned, which lived ten months in perfect health, after the operation.

"He had scarcely removed the two cerebral lobes before the sight of both eyes was suddenly lost; the hearing

* Anat. des Syst. Nerv. p. 560.

was also gone, and the animal did not give the slightest sign of volition, but kept himself perfectly upright upon his legs, and walked when he was irritated or when he was pushed; when thrown into the air he flew, and swallowed water when it was poured into his beak.

"He never moved unless when irritated; when placed upon his feet he remained upon them; when resting on his belly, in the manner chickens rest when asleep, he appeared plunged in a sort of drowsiness, which neither sound nor light in the slightest degree disturbed. Nothing but direct irritation, such as pinching, or pricking, or striking, had any effect in rousing him.

"When the animal did move about, it seemed to do so without any motive or object, though there were no convulsions nor any want of harmony in its movements; if it met with any obstruction, it did not know how to avoid it.

"The chicken was quite healthy, and, five months after the operation, the wound had quite healed, and a new layer of bony matter was forming.

"Still it had no sense of smell or taste; neither had it any sensation of hunger or thirst; for, after allowing it to fast for three whole days, and then placing food immediately under its nostrils, and afterwards putting it into his beak and putting its beak into water, it did not shew the slightest disposition to eat or drink; and would have died for want of nourishment, if it had not been fed by force.

"It seemed entirely to have lost its memory; for if it struck against any body it would not avoid it, but repeat the blow immediately."

M. Fleurens, Dr. Marshall Hall, and Mr. Grainger, are of opinion that this chicken, during the long period of ten months which it has survived the operation, never experienced one single sensation or perception — that it was wholly insensient, and all its movements automatic; yet it walked and flew, and swallowed and drank, upon occasion, and aroused itself from its usual stupor when pinched, pricked, or beaten.

Looking upon the animal, however, as having retained common sensation, how perfectly explicable are all the phenomena detailed; how strictly they accord with those which might be naturally anticipated from the mutilation.

Sight and hearing were lost. These functions, though perhaps like common sensation dependent on the spinal cord, are to any useful purpose essentially associated with the perceptive faculty, and incapable of being effectively exercised without it. It does not at all follow, because sensation is presumed to be distinct and independent of perception, that all the peculiar senses were calculated to be of use, or intended for existence independent of it. For almost all useful purposes of the sense of sight, and perhaps of smell and of hearing, perception is as essential as memory.

There is so much of experience and rational induction required in all the perceptions by these senses which we can turn to any useful account, that the impressions they convey disconnected with such inductions tend to no end. Hence it may perhaps be considered as a universal fact, that all animals possessing special senses, such as man possesses, must also have a percipient organ or brain. This I believe will be found to be the case with respect to all animals possessing the sense of sight, the most intellectual of the senses; and of this we may be at all events assured, that if any animals without brain possess organs of sight, they can only derive from them the mere sensation of light.

The chicken did not shew the slightest sign of volition (spontaneous motion), and never moved unless when irritated. As a purely sentient animal, so rendered by the removal of its percipient organ, it would of course evince no volition; but it was so far inferior to a much lower order of beings—those which were created purely sentient—that it had not, in the absence of a percipient organ, the sentient instincts which in such animals supply the want of motives and volitions; nor could its sensations so readily take the place of volitions, and spontaneously suggest or occasion movements, unless aroused to action by external irritation.

When it did move about, it seemed to do so without motive or object; and if it met with any obstruction, did not know how to avoid it. Here, again, we see the disadvantage the chicken laboured under in not having been created without brain; for if it had, all, even the least, of its sensations would have led to the necessary results as instinctively as those painful feelings did which made it walk when struck, and fly when thrown into the air, and swallow when food was put down its throat.

It had lost the perception and memory which heretofore enabled it to avoid obstacles, and was gifted with no sentient instinct that could answer as a substitute.

It neither hungered nor thirsted. This perhaps is very doubtful. Hunger and thirst are pure sensations, not necessarily connected with cerebral perceptions in any way, and capable of being as universally diffused as common sensation throughout the entire frame, if nature had so pleased it. One should not, therefore, at once anticipate the loss of such sensations on ablation of the brain, though it is probable, in the higher classes of animals, that these as well as other peculiar sensations having their seat so high up in the spinal cord, are wholly extinguished by decapitation. If the chicken both hungered and thirsted, I think the observable phenomena would have been still the same. Having lost its memory, and, with it, its perceptions—its associations—in short, all its knowledge or consciousness of an external world—food might be placed under its nostrils or in its beak, and its beak into water, and yet it would evince no greater disposition to eat or drink than if a piece of iron was offered to it for refection. It may be, and I question whether it is not, the case, that in animals created without brain, the simple sensations involve immediately in themselves some obscure feelings of external existences; but such intuitive or instinctive feelings must be wholly superfluous in animals created with a perceptive organ whose appetites were to be supplied through its instrumentality; and hence it is, such animals fall below the merest sentient being when deprived of that organ.

The acephalous infant furnishes us with an illustration of a purely sentient existence, still more satisfactory than that of M. Fleurens' chicken. Headless infants, or at least infants possessing merely the basis of the skull and face, and devoid of the brain, have been known to live for some days after birth. In these cases, sucking, deglutition, respiration, and the expulsion of the urine and fæces, were performed as in the perfect state, *cries were also uttered*, and the motions of the limbs usual with infants after birth took place. Such motions, however, after a little time occurred only on excitation by some external agent. Are we to believe, that there was nothing whatsoever of sensation or human feeling in the phenomena displayed during the short lives of these little beings?

Mr. Travers mentions a case in which the os frontis was driven in by a fall, and a considerable portion of the brain extruded at the wound of the scalp; yet the boy, "although utterly deprived of conciousness, made obvious but unavailing efforts to aid the surgeon in getting him into bed, and thrust his arm mechanically into the sleeve of a clean shirt, after his hand had been placed in the opening of the sleeve."

If we can implicitly admit the correctness of Mr. Travers' opinion in this case, that there was an utter absence of conciousness, as I presume we may, the phenomena are quite inexplicable on any other hypothesis but that which assumes the integrity of the sentient system after the destruction of the conscious or percipient. The motions performed, it will be observed were neither voluntary, that is, designed, nor instinctive, as the actions of sucking or yawning. They were the result of trained associations, that is, of actions artificially associated with particular sensations. Mere impressions may possibly excite certain combined actions, the connexion being established from the first in the organization; but no connexion can be conceived between arbitrary actions—actions arising out of, and associated with our perceptions or sensations, and mere impressions.

These are all instances of purely sentient life persisting after ablation of the percipient or cerebral life. But if the spinal cord—the organ upon which all sensation in living beings would seem to be dependent, was destroyed as well as the brain, in the gradual manner adopted in Dr. W. Philip's periments, we find a lower grade of life, the organic, yet remaining—we find the heart and vessels of circulation persisting in their functions, and even the secretions going on for a period. Sensation is now utterly extinct. Muscles may contract on stimulation as long as their irritability lasts, but there are no longer evinced any regular or associated movements, any expressions of suffering, or phenomena indicative of design, any spontaneity of action. This last and lowest organization forming the basis on which the sentient and percipient systems are erected in

the higher orders of animals may perhaps be itself like each of these, the type of an immense class; yet there are too many strong analogies in favour of the more popular notion, that feeling characterizes even the lowest forms of animal existence, to permit our coming to any decided conclusion on the subject.

In this manner, by removing the superstructures successively, we may unbuild the frame of the perfect animal, so as eventually to reduce it to the simplest organization—the lowest of living forms. But we have other very striking evidences, that the organic, sentient, and percipient forms of life, are essentially distinct, in the discoveries of Tiedemann and others respecting the development of the fœtus. Tiedemann has shewn that in the earliest period of fœtal life, the brain and spinal cord do not exist, while the organic functions are in active operation. At the end of the second month the spinal cord and two anterior prolongations or peduncles of the brain are formed, or in other words the sentient existence is established. Finally, the cerebral lobes become gradually developed, and the organization essential to thought and memory and consciousness is achieved*.

It is singularly illustrative of the distinctions here pointed out, that they are as observable in the dying animal as in the process of its formation. Each form of life dies, too, precisely in the order one might anticipate from its known dependencies. The organic, the first formed, and the basis upon which sensations and perception subsist, necessarily lives longest; while the percipient system, the last added, and the least essential to existence, dies earliest. It is extinguished, indeed, temporarily in very slight disturbances of the organic or sentient functions—in common fainting, in apoplexy, and in epileptic fits; and even in profound sleep we are as wholly unconscious of existence as if the percipient organ was removed; and in dying, the loss of mental consciousness always precedes insensibility, though sometimes perhaps only for a very short period. The time for which the sentient life may persist after the loss of the percipient is very uncertain, though generally very inconsiderable in the higher classes of animals, and differing much in the warm, in the cold-blooded, and in the amphibiæ. The diseases of the human frame furnish us with numerous instances of the continuance of sentient life, in cases where we could have no doubt there was a suspension of all consciousness—an extinction, for the time, of knowledge, thought, and memory, and even when perfect death is impending, and sensation itself has expired throughout the rest of the system, it still clings to the respiratory function—the last and most important with which it is connected.

I very much doubt whether the fœtus in utero at any period, or even the infant of a few hours old, is a percipient being—that is, a being exercising its percipient organ; nor, if I am correct in my conclusions, can there be a more beautiful example of pure sentient existence than the latter presents as it rests or sleeps for the first time in the lap of its nurse. Never having, as I presume, yet experienced a distinct perception—a sensation referred to the external cause which produced it—it cannot have thought, or knowledge, or belief, or memory, of any thing. It feels and moves; it withdraws its hand if touched, it turns, or throws its arm outside the clothes, or draws up its little knees, and seeks an easier position to lie in: but it refers no sensation to a self that felt that or other sensations before. It has perhaps a constant sense of existence, such as may possibly be inseparable from sensation; arising not from any knowledge or belief or thought about itself as distinct from an external world, nor from any reference of that sense to a thinking being which experiences it; but from whatever instinctive feeling of individuality may be imparted by a constant succession of sensations in one organization. All men during profound sleep are, in fact, like the acephalous or the new-born infant; but mere sentient beings, and the many successive sen-

* "It is a singular but beautiful physiological fact, that living organizations generally should be developed and called into being, should obey the same laws and rules of development, should become more complex and perfect in the same gradual manner in which man individually, from the first germ of his existence to his perfect form, exhibits; that the animal kingdom, from its minutest microscopic point of vital endowment, should pursue an analogous perfection of development of different organs, should exhibit the same systems mutually dependent or rising into or out of each other, that are called into operation in rapid succession during the short nine months of human embrytic and fœtal existence; that we ourselves in embryo should lead a similar aquatic life to many of these animals!"—*Anderson on the Nervous System.*

sations with their associated muscular movements which make up the night, the turns and changes of position, unattended by any after-consciousness, and which are usually attributed to unremembered volitions, have, I believe, if the truth could be strictly ascertained, never been perceived.

To recur again to the fœtus in utero: as the mother is sensible of its movements after the fourth month, it is obvious its limbs are obedient to sensations before the brain is at all properly developed, and therefore before mind begins. The flexion and extension of the limbs, the kicking and elbowing which every mother knows are performed with considerable energy before birth, cannot be fairly attributed to volitions, unless the existence of perceptions and thoughts are at least presumable. Even after the child is born, it can only will those motions which are already obedient to sensations, as flexion, extension of the limbs, &c. It cannot originate a motion not connected with or trained to act with a sensation; it cannot, in short, accomplish a very unnatural or unusual movement. The first actions of the newborn infant are thus purely sentient, and have no more connexion with volition than those other actions which are the acknowledged results of instincts or sensations, as sucking, sneezing, coughing, respiring, &c. As it gets perceptions and ideas, its actions become gradually associated with volitions; but those volitions are still for a time confined to the instinctive or sensient movements; they then become connected with sensations, excited by seeing actions performed before us, and lead to imitative movements; last of all they become associated with perceptions of a more abstract nature, and follow patiently the thoughts of the mind.

It has been already observed, that purely sentient animals are not endowed with the higher of the special senses, whose exercise to any useful end requires the assistance of a percipient faculty. Common sensation which they enjoy, and which is generally diffused throughout their entire frames, seems capable of accomplishing all that is requisite to life, at least in that very lowest form of animal existence which betrays no mark by which it can be recognized, beyond a diffused sensibility. If a percipient faculty was not essential to the exercise of the higher functions of vision and of hearing, there is no reason why these senses should have been confined to minute organs, or rather why they should not have been diffused throughout the frame like common sensation, so that sights and sounds and external feelings should be appreciated in common by the cutaneous nerves on all parts of the surface, as the odours of the rose, and musk, and valerian, are by the olfactory nerves.

There is no fact which more forcibly demonstrates the distinction between sensation and perception, than the vast distance observable between animals endowed merely with a diffused sensibility, and those possessed of such special senses as require the assistance of the lowest degree of the percipient faculty. Even multiplying the higher senses, or rendering them more acute, does not necessarily raise an animal in the scale of being, any more than multiplying or improving its instincts would. But rendering its perceptions permanent, and increasing its power of abstracting and comparing, add considerably to the perfection of its understanding. Some of the lower animals are said to possess a sixth and even a seventh sense, besides possessing those in a much greater degree of perfection which they enjoy in common with us; yet their vast inferiority would scarcely be lessened in the comparison were two of our special senses to be taken away.

It must readily occur to the reader, from all that has been stated, how much the confusion in which metaphysicians have involved themselves, about the nature of sensation and perception, must have tended to perplexity and error in their general estimate of affections of the mind. It seems strange, for instance, that what are called external affections of the mind—those sensations which relate to, and connect us with, the world about us—should be classed with internal affections; those perceptions, thoughts, and memories, of which our consciousness is made up, and which we feel might remain, though our external actions were altogether changed. What is there, we may ask, in sensation, in bodily enjoyment, or suffering, or pleasure, or pain? What is there even in our instincts or appetites, which all depend upon, or hold connexion with, the world we live in, and our relations to one another, which

should induce us to identify them with the percipient and conscious mind—that mind which sees no essential or everlasting affinity between its thoughts and the things about it—which can conceive new conditions, and accommodate itself to new relations—and which acknowledges no necessity for its death, though the world were extinguished?

I am, after all, most ready to admit, that even in the present advanced state of physiological science, it is difficult to explain or discuss all the phenomena connected with sentient and percipient existence very minutely, without danger of committing some metaphysical absurdity. It may be, that every feeling includes some obscure intuitive sense of being; it may be, that perception, instead of being a distinct faculty, as Reid and others considered it, may be, as Brown conceived, "nothing more than a suggestion of memory or association, which differs in no respect from other suggestions, arising from other coexistences or successions of feelings equally uniform or frequent;" but, however these points may be eventually decided, it cannot affect the conclusions which have been followed out in these papers, so long as it is undeniable that evidences of sensation are displayed after ablation of the brain, but none of either perception or memory. The exposition of the greatest errors, or even of the most absurd reasoning, if such were detected, would yet go but a little way to shake the foundations upon which the opinions here advocated have been based, so long as it is unexplained how an animal possessing sensation, evincing spontaneity of movement, and evidently enjoying the pleasure of alacrity or action, of ease or of warmth, of hunger or satiety, admits of subdivision by the knife, each part still displaying the same phenomena which previously pertained to the whole? So long as it is unexplained how the brainless rabbit and the headless frog evince the ordinary movements of suffering when tortured, and make the ordinary efforts at escape; and, finally, so long as we remain unconvinced that, when cries are uttered by animals wanting the cerebral lobe, they experience no pain.

It has been said, it is true, that the experiments on living animals, from which these facts are deduced, are not to be trusted, and that the inferences from them are even contradicted by pathological experience*. But no pathological experience or discovery can make it untrue, that movements to an end are made, and cries uttered, by the acephalous infant, or the brainless rabbit; or that signs of suffering are evinced, and efforts to free itself displayed by the headless frog. It has been said, on the other hand, by those who deny neither the facts nor the inferences deducible from them, and as if it offered a satisfactory explanation, "that, although in man the sensorium is exclusively confined to the brain, as we descend in the scale of being, it becomes more extended. That in some amphibia we may conjecture that the spinal cord partakes with the brain in all its faculties, and, as we advance to animals that have a still simpler organization, the brain entirely disappears, and the spinal cord appears to be substituted in its place."

A little consideration must convince any physiologist how very untenable are these assumptions, of a diffusion or transfer of a function or a faculty from one organ to another. No one was ever bold enough to imagine the functions of the liver or spleen could be transferred or extended to the kidneys, or to any other wholly dissimilar viscus; and, surely, in the shape and arrangement and anatomy of the brain, not to dwell on any other distinctions, there is as great dissimilarity to the spinal cord displayed as could exist between any of the viscera which differ most widely in function. When we cannot detect organs of vision or of hearing in any animal, we do not straightway suppose

* I have no doubt but when we acquire habits of observing the physiological symptoms arising from diseases of particular parts of the nervous system more accurately, we shall find our experience daily corroborate the results of experiments carefully performed on living animals. The rotatory motions, the retrograde and the motions forward which have been observed by Magendie in his experiments on the influence of the cerebellum on muscular motion, have been since noticed as direct results of diseases in animals; and I have myself seen, within the last month, an instance of disease within the ear, in which the symptoms strikingly resembled the effects occasioned by injuries of portions of that organ in the experiments of Fleurens. That celebrated physiologist found on dividing the semicircular canals of the ear in birds in certain directions a rotatory motion to the right or left, or motions of the head up or down was produced. In the instance of disease of the ear alluded to, in which a discharge from the organ had existed from childhood, the patient informed me, that whenever he pressed his thumb firmly on the mastoid proces , he immediately spun round, and unless he removed the finger fell to the ground.

that these senses are transferred to other parts, but rather that they are wholly wanting. When the brain has been removed, or in cases where it never existed, why therefore should we not at once determine that the functions of that organ, whatever they might be, are wanting also? Or why should we rather venture a conjecture that in any, even the lowest form of vertebrated animals, the spinal cord becomes a substitute for the brain? "The investigations of comparative anatomy," says Mr. Grainger, "and the laborious inquiries into the process of development, have led to the establishment of one grand principle in the science of organization--the unity of structure. There is no truth in any branch of human knowledge fixed on a more firm basis than this; that although nature displays immense fertility in varying and modifying the form, and other physical characters, of the several organs, yet that there is in no one instance a departure from the first original type. This, the great law of the organic world, has been demonstrated in the osseous, nervous, glandular, and other systems, with amazing exactness; and, as a consequence, it has also been discovered that the human body, from the period of its first appearance as a semi-fluid and shapeless mass, till it attains its perfect formation, passes through many stages, in which its several organs temporarily assume the permanent structure of the lower animals. There is thus a chain of evidence, in which no link is wanting to prove what are, and what are not, analogous parts. Notwithstanding the complete establishment of this most important principle of the science of organization, it is still maintained that properties, that is to say, sensation (perception) and volition—which are known to be the special attributes of certain parts of the human brain, and which parts, although developed in an inferior degree, have still a real existence in the lower animals—become translated in these instances to another independent organ, possessing its own peculiar endowments—the spinal cord. If such a mode of inducing facts be recognized in physiology; if, in fact, the function of one organ may thus be transferred to another and distinct structure, merely to reconcile the anomalies of a crude and ill-supported hypothesis, all the great truths of modern anatomy have been discovered in vain."

[Concluded.]

OBSERVATIONS
ON
COMPLICATED SURGICAL INJURIES,
INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.
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(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 144.]

II.—*On the various Characters of Gun-shot Wounds generally, and their Indications for Treatment. Also on some Complications by Fracture.*

The possibility of producing adhesion rapidly in gun-shot wounds should be well understood; for in some instances success is of the greatest importance. A case occurred in one of the Portuguese campaigns illustrating in a striking manner, that where the union of parts detached by a musket-shot is essential, such a result ought never to be despaired of, but every measure taken to procure union, as though it were an incised wound.

Lieutenant G——, in a sortie from Oporto, on the 24th of January, 1833, was struck by a musket-ball through the upper lip, tearing it down, and reversing it on the lower. At nearly the same moment, while turning round, a second ball struck him in the neck, and passed through his cheek on the opposite side, carrying away four of his molar teeth. Mr. Myers, the surgeon of his battalion—now practising in this town, and a gentleman of excellent judgment—saw him on the field, and very properly replaced the lip in accurate apposition, and confined the parts by means of two sutures through the substance of the lip. During the night the face and neck swelled enormously, attended with great pain, for which, within twelve hours, he was copiously bled. It was not until the next morning, when collecting the wounded British who might still be at St. Joaõ da Foz, that I saw him. A high state of inflammatory and febrile action had already fully set in. I had him removed into Oporto: and from the direction of the wound in the neck, immediately in front of the carotids, I insisted on his being placed in a wing of the English hospital arranged for the reception of officers, that he might be

constantly under my own eye and immediate care.

A strict antiphlogistic treatment was rigorously enforced: he was frequently bled, kept in a perfect state of repose, and only allowed to swallow a little cold tea or arrow-root in small quantities. The first efforts at deglutition nearly produced suffocation; but, with care, he managed better afterwards, although the effort was attended with pain and difficulty. Probably some branches of the vagus nerve distributed to the pharynx and larynx, and which are motor as well as sensitive, were injured by the course of the ball.

On the fourth or fifth day I cut away the sutures, which threatened to tear themselves out: the lip remained in perfect apposition, without any suppuration on a great extent of the wound, which stretched completely across the upper lip beyond the commissures of the mouth. About the seventh day a healthy suppuration was established in the neck, and also at the points of entrance and exit of the ball in the lip. The central part was united by a ragged line, marking the laceration the parts had suffered.

He recovered without a single unfavourable symptom: the tumefaction of the lip, which was very great at first, gradually subsided, until the wound was only marked by an irregular but tolerably smooth line, a little redder than the surrounding skin. The wounds in the neck and face healed, and some months after a portion of the alveolar processes exfoliated where the teeth had been driven out.

With respect to the first treatment of gun-shot wounds, it cannot be too simple. The pernicious effect of the indiscriminate use of bandages, sutures, and adhesive plasters, on the field, has been by no one more strongly enforced than by Mr. Guthrie, whose name stands so deservedly high in the annals of military surgery. During my service in Portugal and Spain I have had good opportunities of seeing the comparative advantages and disadvantages of each. For while my general order was fully complied with on the part of the English medical officers, "to use the simplest form of dressing, and particularly not to bind parts which in the natural course of things must naturally swell and enlarge with inflammation," I was in the habit of seeing a contrary rule adopted by my Portuguese and Spanish colleagues. Sometimes I found even some of our own men, who had chanced to pass through their hands, with their limbs and bodies tightly swathed. Not seldom, as their ambulances were often considerably more to the rear than our own, they dressed our men a second time, who were passing to the hospitals from the field. Our friends not appearing to consider a man dressed without a bandage encircled his limb, a simple pledget of lint dipped in spirit or water, and a couple of strips of plaster to keep it in its place, like the fish and soup of a gourmand's dinner, seemed "to go for nothing," or merely to serve as a whet to the succeeding courses.

Many instances, some ludicrous and others lamentable, of this mischievous practice have come under my observation; to some of which I may refer hereafter. In the meantime let me mention another practice, which, but for my last campaign, I should not have thought worth mentioning, believing that it was exploded throughout Europe, wherever surgery was cultivated as a science.

I allude to the practice of converting a gun-shot wound into a pretty star, by means of a bistoury, dilating it in every direction.

During the assault of Irun, in 1837, a portion of the wounded of the besieging army were carried over the frontier into Behobia, to which place the French authorities had despatched an ambulance, surgeons, &c. On passing through the various quarters assigned to the wounded, to ascertain how many of the British, more particularly under my charge, were there, I saw, to my astonishment and dismay, sundry gentlemen of the French ambulance flourishing bistouries in every direction, dexterously and remorselessly, without hesitation or discrimination, adding to every gun-shot injury a dozen incised wounds. I could not help—although their patients were Spaniards, and consequently not so exclusively appertaining to me—to remonstrate; but the star-like process was not to be stopped, and I only congratulated myself on having previously despatched to the English wounded medical officers, of the Legion, by which they had all escaped.

In truth, from what I saw there, I am convinced military surgery among those gentlemen (I hope not in the

French army generally) must have sadly retrograded since Larrey taught and practised. At our simple dressings they shrugged their shoulders with an air of pity for our ignorance that was truly amusing, and I rejoiced exceedingly when the arrangements were completed for removing all our wounded back into Spain, which I did with all possible celerity.

These are some of the general and more superficial features of gun-shot wounds. Many observations of a similar tendency suggest themselves, but they must necessarily be brief and much curtailed, or I shall lose the opportunity of drawing your attention to still more important subjects.

In my last lecture, you will remember I pointed out the uncertainty attached to the patient's impression of the nature of his wound or the track of the ball; and a more extraordinary instance than any I adduced occurs to me now—additionally striking, inasmuch as the wounded man was a surgeon, although not serving in that capacity. He was struck by a musket-shot in the chest; and while examining his wound the first time, and subsequently on the succeeding day, his eager and anxious exclamation upon each occasion, was, "It is not a penetrating wound—I am sure it is not, sir!"

This non-penetrating wound had not only entered the chest, but the ball had carried away a portion of the apex of the heart! Of this case I shall speak more at length hereafter.

Equally uncertain are the indications to be drawn from the shock on the system, similar wounds producing various degrees in different individuals; a slight wound and a severe one sometimes giving you, in two men lying side by side, a nearly similar effect. Doubtless much of this depends upon peculiar idyosyncrasy, state of health, of the mind at the time, &c. It results, however, that you must neither implicitly rely upon the constitutional effects, nor be guided in the diagnosis, or even in treatment altogether, by such variable and uncertain signs. I have had two wounded men brought to me at the same moment; one shot through the thigh, and another with his shoulder torn off by by a round shot; and the latter present less constitutional evidence of a violent shock than the former with a comparatively trifling wound. This is not common, still it occurs sufficiently frequently to make it necessary you should be on your guard. However, it behoves a surgeon carefully to note the general effect, constitutional and local. This will often direct attention to the particular nature of the injury, and give information of effects where neither the eye, the probe, nor the finger, could reach. It enables the surgeon to make any local examination with more point and effect.

A man struck by a round shot, or receiving from a musket-ball a very severe or fatal injury, generally presents an appearance strongly indicative of its nature: a pale countenance, haggard eye, feeble or fluttering pulse, great prostration of strength, and a general faltering of the powers of life; the face often bedewed with a cold clammy perspiration. If stimulus, and a few words of confidence and hope—no mean stimulus—be not promptly administered, a man in this state is very likely to sink without an effort or any attempt at reaction in the system.

The injuries, on the other hand, which a man will suffer, and yet retain a calm demeanour and the perfect possession of his senses, is truly astonishing. At the assault of Irun, an officer was struck by a round shot, which tore his limb off at the upper third of his thigh, near to the hip. A medical officer on the spot promptly put a ligature on the femoral artery, before he allowed him to go a short distance to the rear. I met him on the road, and as I stopped the stretcher to know who was in it, he recognized me, and said, with perfect calmness, "Mr. A'Beckett, sir, has tied the artery." His pulse was feeble; his countenance blanched, though no bleeding had taken place. He was given a little brandy, and lived until the next day, but never rallied so as to render any operation justifiable.

On another occasion, an officer of rank, with considerable anxiety and disturbance in his countenance, was passing to the rear. Imagining he might be seriously injured, and no ambulance was so far in advance, I dismounted to see. On examining, I found a musket shot had passed across his buttocks, scarcely grazing—making, in fact, a black *wale*. The truth is, not having been able to see that part of his person, his imagination seemed to have figured a fearful wound; and when I told

him he was *quitte pour la peur*, his countenance changed very oddly—still a little *decomposé*, as the French would describe it; half doubting its truth, and half wishing it might be untrue. He has since then been a viceroy and commander-in-chief. Nor would I by the anecdote impugn his courage. His only failing in this case he shares with all people who cannot see the back part of their person as well as the front.

The hæmorrhage which occurs in gun-shot wounds, in the first instance, is sometimes smart, without any large blood-vessel being wounded: if any branch can be readily discovered, it should be tied. But in the majority of cases it seldom lasts beyond a very few minutes, and stops either spontaneously or with the aid of a little cold water. Limbs torn off very rarely bleed. I have seen a great many, and never remember hæmorrhage from the main artery. Does this apply only to extremities?

After the action near Santarem, in 1834, to which allusion has already been made, I dressed one of the most ghastly wounds I ever witnessed. A Portuguese caçador sat on the ground, his tongue hanging out, a frightful spectacle! A grape-shot had struck him in the face, carrying away both lips, the superior maxillary bone, and most of the flesh covering, severely lacerating the tongue, smashing and crumbling away great part of the lower jaw. The man had perfect possession of his senses. There was very little hæmorrhagic tendency, and, indeed, he seemed comparatively to suffer little pain.

Hæmorrhage more generally occurs about the twelfth day, when the sloughs detaching leave the mouths of any lacerated vessels open; and the parts in the neighbourhood, changed by disease, render such cases highly dangerous and exceedingly troublesome and difficult to manage. Some of the most complicated cases which have fallen under my care have been these, and productive of more anxiety than most others.

I think the number of these is greater than Mr. Guthrie has fixed as the average. He says, three or four in 1000. I do not think I ever had a batch of 300 wounded, without two, three, or more of such cases, though all may not require ligature: generally, however, they do require such an operation, and then almost invariably under very disadvantageous and trying circumstances. But on this part of the subject I shall have some further remarks to make presently.

In Portugal, I remember, in a set of 300, five cases occurred. In Spain, in one set of 400, five cases occurred: three in gun-shot fracture of femur; one in gun-shot wound of face; and one in gun-shot fracture of humerus.

In another set of 500, four cases: two from gun-shot fractures of bones of face, one of fibula, and one of radius into the elbow-joint. In 1350 cases under my charge at San Sebastian, nine; and in 197 officers, two cases — both gun-shot fractures of leg.

1350, rank and file,	9	cases of secondary hæmorrhage.
197, officers - -	2	ditto.
1547	11	

Mean average about 7 per 1000.

The extremities are often the seat of very complicated injury. Comminuted fractures, lesion of vessels and nerves, and penetrating wounds into joints of every kind and form, requiring the most careful exercise of judgment to decide how far it be possible to save the limb; and therefore whether the attempt be justifiable. In the treatment demanding constant attention, and no ordinary exercise of knowledge, both medical and surgical; if such a division may be justly made in speaking of military surgeons, where no such arbitrary and purely conventional distinction can exist. I would rather say, that in these injuries, the local adaptation of the means of cure, and the constitutional treatment, require to be most carefully adapted to the varying states of the patient and the nature of the injury, or no good result can be anticipated.

The most common of these complications is fracture; and a gun-shot fracture differs very much, both in its first characters and subsequent results, from the compound fractures generally met with in civil life by falls, cart-wheels, &c.

When a musket ball strikes a bone it generally splinters or shivers it into

many pieces, like brittle china. Here, you see, are several very perfect examples; this particularly—see fig. 1.

Fig. 1.



The bone, however, is not only thus broken into many pieces, but is very generally fissured upwards and downwards for several inches, as in these which I now show you; the consequence of this is, that when the fracture takes place in the lower or upper third of the bone, it is rare that these fissures do not extend into the joint, as you may observe has been the case in many of these preparations.

These fissures, extending into joints, are worthy of considerable attention as regards their capability of exciting destructive inflammation in the machinery of the articulation; in the various structures—osseous, cartilaginous, and serous or synovial—which enter into the formation of joints. There is no doubt that such mischief may ensue from a fissured bone. Nevertheless, it does not invariably follow, as you will see by this preparation, which offers one of the most beautiful specimens of the results of the inflammation in bone produced by injury, causing the most extensive caries, and of a widely fissured bone into the ankle joint, without any destruction of such susceptible surfaces. Figs. 2, 3.

Fig. 2.—Posterior view.



a, a, a, a. Ends of fractured bone partially detached.
b, b, b, b. Callus.
c, c. Worm-eaten or partially absorbed fragments lying in the cavity of the tibia.
d, d. Cavity formed by a loss of substance, extending three inches in length and the whole diameter of the tibia.
e, e. Fracture extending through the articulation.

Fig. 3.



The following is a short abstract of the case:—Cornelius Curry, æt. 40, received in action on the 5th of May, 1836, a musket-shot; the ball entered about three inches above the malleolus internus, and passed out on the opposite side, fracturing and comminuting the bones in its passage. Three fragments of bone were removed on the field, and during the subsequent treatment 26 pieces were extracted.

Six days after the action I found the swelling of the limb not excessive, and constitutional disturbance slight. Towards the end of the first month the discharge became very profuse, and an abscess formed in the anterior aspect of the leg, which was opened, and a day or two later some lividity of the toes, with coldness of the foot, and griping pains in the abdomen, were observed. These disappeared in forty-eight hours, and on the 1st of June the wound was enlarged, and two large splinters of the tibia removed.

Frequent diarrhœa, griping, and more or less pain, with the formation of abscesses, marked the case during the second month, at the end of which, after carefully examining the limb, I made the following remarks:—

"There seems to be no very abundant formation of callus, and there is still great loss of substance where the fragments were removed. Small abscesses are continually forming in the neighbourhood, and there is much disease in the adjoining soft parts; ankle and foot considerably swelled; the leg presents a dilated granulating wound with a cavity in the centre, at the bottom of which the bone is seen denuded; health has suffered a little; bowels are rather lax, and he is subject to a feeling of sickness. Pulse is feeble; tongue pale, but clean; appetite, he says, is fair."

At the end of the third month I again made careful notes of the state of the case.

"The limb is far from being in a satisfactory state: after twenty-two pieces of bone have been removed, it is still evident that further exfoliation is going on. The surrounding soft parts, for a considerable distance above and below, are in a very diseased state, and in all probability no effective union has taken place. Discharge healthy, but copious, six or eight ounces daily; pulsation of artery distinguishable from the motion of the pus; health, however, has suffered less than might have been anticipated; bowels act regularly without medicine; tongue pale, but clean and moist; appetite tolerable; pulse feeble, 92. Full diet without meat; two ounces of sherry and an egg.

After this he rapidly declined. Erysipelas supervened; rapidly involved the cellular tissue of the whole limb; and on the 13th of August, the fourth month, he died. The following state of parts was found, on examination after death:—

The integuments of leg and thigh, on the inside up to the scrotum, livid; cellular tissue of the whole lower extremity, excepting outer side of thigh, infiltrated with serum; sloughing and disorganization of the tendons, muscles, and cellular tissue, observed in the vicinity of the fracture; part of this seemed caused by the pressure of a splinter of bone, about an inch in length, protruding from behind against the tendon of the extensor communis.

The fracture of the tibia was comminuted, and a very distinct fissure extended downwards and across the articulating surface of tibia its whole breadth. On examining the ankle-joint the synovial membrane was observed thickened; and that portion of it which covered the articulating surface of the tibia was of a blood-red colour, and separated from its cartilaginous attachment; a slight appearance of erosion of the cartilage was observed at the lower part of the articulating surface of the internal malleolus."

There was an unusual and morbid quantity of fluid in the serous cavities. The whole cellular tissue was in some degree anasarcous.

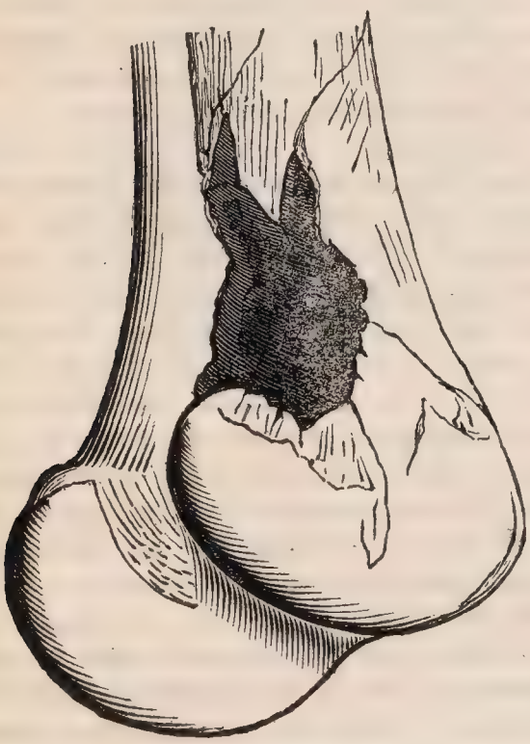
The notes of the *post-mortem* are very full, and minutely describe many other appearances of the diseased limb, bone, &c. But enough has been given for the present purpose. It is very evident, from the slight and almost doubtful erosion, in the middle of the fourth month, that no violent inflammation, but only a mild and chronic form, had been set up in the joint, for a considerable period; such, indeed, as might have been anticipated without any fissure or direct injury of the joint, from the extensive disease every where surrounding it.

Thus proving, that not only may a joint escape from a mere fissure, but from a widened and extensive crack

across the whole surface. It has been to establish this important fact that I have given at some length the details of the above example. There is no case in surgery probably which demands a nicer exercise of judgment, or more careful and maturely-weighed decision, than these gun-shot injuries of bone implicating joints. For if it be of the last importance that a surgeon should not wastefully peril the life of his patient by keeping on a limb hopelesly injured, it is scarcely less so, that he should not decide on removing a limb which, by time and care, may be saved and eventually cured.

Here, for instance, is a preparation of a femur, with partial fracture and fissures into the knee-joint (see fig. 4). I

Fig. 4.



The original dark line in the superior portion of the fracture marked the sketch made from it immediately after amputation. It was probably, however, not very closely copied.

never look at this without a feeling of doubt as to the propriety of, and almost regret at, the decision which caused the removal of the limb. It was my own decision, gentlemen; and although I still think the result of a trial to save the leg, under the circumstances, very doubtful, yet, perhaps, had I known as exactly as I do now the state of injury to the bone, I might possibly have reversed my decision, and endeavoured to save it. I did not hastily decide, however, or without carefully weighing all the circumstances, which were shortly these:—

The patient, æt. 24, a private in the Legion, was admitted June 23, 1836, at ten o'clock at night, from the lines, with a wound above the knee, received (according to his account) from a swivel gun, at about two hundred paces distant. On examining the wound, the finger passed immediately upon a comminuted though evidently partial fracture of the femur, immediately above the internal condyle, the course of the wound being filled with nearly pulverized bone. The capsular ligament seemed to be opened, the finger glancing over the edge of a surface like that of the condyle where it enters into the articulation. The destruction of bone seemed considerable, and the laceration of soft parts, extending upwards and downwards for several inches, was greater, both as to extent and degree of injury, than any thing I have ever observed, except in wounds from cannon-shot.

The missile had passed evidently close to the under surface of the bone; hence I deemed it probable, that even if the artery was not torn across, its coats were bruised, and sloughing endangered.

Taking into consideration the destruction and injury of bone and soft parts—the danger to the artery, and probability that the joint was opened into, together with the certainty, from its close proximity, of serious mischief ensuing in it,—all these considerations, carefully weighed, led me to consider it a desperate case, notwithstanding the one favourable circumstance of the bone being only partially fractured. His consent could not be obtained till the succeeding morning, when inflammation was already making the limb assume a threatening aspect.

The limb was removed at my request, by Staff-Surgeon Dorset—a gentleman who had served with me not only in Spain, but all through the campaigns of Portugal, with great honour and credit. The first incision was made an inch and a half above the highest point of laceration. The vessels were preternaturally filled with blood. Four arteries were secured, and the vein bled so profusely when not confined, that I thought it desirable a ligature should be placed upon it.

On examination, the bone was found

less extensively broken than I had received the impression it was, although a considerable portion, as you see, above the condyle, was comminuted and carried away. The capsular ligament at one point was slightly torn, and diseased action had already commenced in the joint. The ball had, as I anticipated, passed between the artery and the bone, bruising it in its course, producing ecchymosis to some extent in the coat, though whether to such a degree as to bring on sloughing, may be doubtful.

The patient did very well, and fully recovered.

These, then, are the kinds of injuries, let me repeat, in which you will occasionally have very anxiously to weigh all the circumstances, and perhaps feel some difficulty in coming to a clear and satisfactory conclusion. They are always cases calling for knowledge and experience, and the sound judgment which can only be their result.

Two other cases of similar character and difficulty occurred, which will furnish good examples of how much may be adventured in some instances.

In the action fought by General Cordova, on the heights of Arlaban, in 1836, the Legion formed his right wing; and though only partially engaged, several men were wounded, among the rest one in the knee.

The surgeon of his regiment, who, with his wounded, was quartered in the same village as myself, on the evening of the action came to request my opinion as to the propriety of immediately amputating a man's leg. I had fortunately seen the man on the field a few moments after he fell, and, in accordance with the principle I have laid down never to lose the first opportunity, I forthwith dismounted, and carefully examined his wound.

A musket-ball had entered at the popliteal space, at the posterior surface of the external condyle, and passed through the bone at this point; my finger followed its track, ascertained that the condyle, though traversed, was not detached, and the ball, from its slanting direction, had probably not even opened the capsular ligament. I equally satisfied myself that the popliteal artery was safe.

I have no hesitation in saying that this first examination saved the man's leg, if not his life; for when I proceeded with the surgeon, I found it impossible, from the pain it inflicted, to make any minute investigation, and the limb putting on such an appearance with the exit and entrance of the ball across the joint, that it would most likely have been condemned. Finding, however, it was the same case, and having satisfied myself of the true nature and extent of the wound on the field, I thought it a case wherein the limb might be saved, and so decided. I had the satisfaction of seeing the man gradually recover, with a somewhat stiffened but straight and perfectly serviceable leg.

The second case occurred in an officer, Captain de B., at the assault of Irun, from whence he had been carried to Behobia. Amputation was decided to be the only resource; but the operation was deferred until I saw him.

A musket-ball had entered at the upper and outside of patella, and passing obliquely downwards, traversed the joint, making its exit low down in the popliteal space.

Carefully following its track with my finger, between the patella and the femur and tibia, I could ascertain neither fissure nor fracture, and finally came to the conclusion that the ball, opening the capsular ligament, had coursed obliquely across the articulation, between the surfaces of the bones, without materially injuring their structure. Under these circumstances I conceived the hope of saving the limb, and gave my opinion to that effect.

By free depletion, local and general—by a strict antiphlogistic treatment and great care—the inflammatory action was subdued. With the unremitting attention and judgment of Staff-surgeon Gannon, to whom, indeed, the chief merit is due, not only was the limb saved, but so good and useful a leg is the result, that on meeting the gentleman some time back, I observed with both pride and pleasure that he walked perfectly well and strongly on the injured side. So much so, that the British Army Medical Board did not conceive the permanent results warranted them recommending him for a pension.

Note.—In the three sketches, fig. 1 shews the bone as it appeared immediately after amputation; figs. 2 and 3, after maceration, when the splintering could be distinctly traced. In the superior portion the two cracks are per-

fectly closed, presenting a mere line, but taking an unusually oblique direction. At *a*, the crack extends within the insertion of the capsular ligament; and at *b*, about three lines beyond the edge of the articulating surface. At *c*, also, a close fissure extends round exactly to the articulating surface, sweeping round the external side of the femur in a very curved and oblique direction. In fig. 2, two other fissures are shewn, all perfectly closed but distinct; *d* is one, running upwards more than two inches; and *e*, which also extends into the articulating surface a couple of inches. Where the ball struck, the deeply broken cancellated structure of the bone is alone to be observed. There are eight fissures, three within the capsular ligament, and two of these passing from three to four lines across the articulating surface.

VARIOLOUS OPHTHALMIA.

By J. F. Marson,
Surgeon of the Small-Pox and Vaccination Hospital, London.

(*Read at the Westminster Medical Society, April 27*, 1839.)

There is a popular belief that the eye is injured or lost in small-pox from one or more of the pustules of this disease forming on the cornea. The same opinion is generally entertained too by members of the profession, otherwise well-informed, and by our best writers; but so far as I have been able to observe the opinion is not correctly founded.

My position, as surgeon of the Small-Pox Hospital, affords me an opportunity of seeing this injury frequently, and I have noticed it with attention for the last three years, but in no one instance of those under my care has it arisen from the cause to which it is usually ascribed, nor have I ever seen a small-pox pustule formed on the eye. The eye itself appears to me to possess complete immunity from the *eruption* small-pox. It remains uninjured all through the eruptive stage of this disease. Although the pustules are invariably more numerous on the face than on any other part of the body, and extend to the inner margins of the eyelids, they never form on the conjunctival membrane—so far as I have seen—either where it covers the globe of the eye or lines the palpebræ. Common inflammation in a few instances attacks the conjunctiva during the first 5 or 6 days; this I do not deny, but then it must be in a great measure independent of the eruption, as it occurs but very seldom, and is not the inflammation that leads ultimately to the destruction of the organ. Inflammation has been supposed by some to be caused by the diseased secretion of the Meibomian glands being confined within the closed eyelids, which is further stated by them to cause ulceration. This vitiated secretion might perhaps give rise to slight inflammation, but it does not produce destructive ulceration; that process is the effect of the state of body consequent on a severe attack of small-pox, followed by violent secondary fever. The two conditions are quite distinct. There will be in this inflammation arising in the early stage of the disease great redness, with what is called chemosis, continuing for a few days, but it subsides without future mischief to the part affected. The common abscess of small-pox, familiar to all practical men, forms on the eye between the conjunctival membrane and sclerotic coat, and also between the layers of the cornea, of which I may have seen five or six cases in the treatment of 1500, but this could not well be mistaken for one of the characteristic pustules of the disease. These abscesses were small, took place contemporaneously with abscesses in other parts of the body, and the eyes recovered unimpaired.

I may as well allude here to a deep-seated inflammation now and then occurring, of which I have seen three or four examples. It appears to destroy sight very speedily, without producing ulceration of the cornea, and is met with in persons who have small-pox in a very severe form, and who die on the seventh or eighth day. On looking carefully into the eyes of these patients the colour appears altered; there is a general cloudiness and vacant expression, and sight seems to be wholly gone in a very short time: the iris, retina, and all the interior and deep-seated parts of the eye I have no doubt are involved in this inflammation. Whether or not sight would be regained in case the body were restored to health, it is impossible to say, as I have never yet seen an instance of recovery.

But it is to the destructive ulceration

of the cornea, to that form of the disease which most frequently destroys the eye in small-pox, that I wish more particularly to request your attention. It is singular that our writers on ophthalmic surgery — men of great ability, experience, and observation—should have followed so exactly in the steps of each other, in giving what I consider an entirely wrong description of this affection. This error must be ascribed to the comparatively limited opportunities afforded to them of seeing the disease in its early stage. But I wonder that those writers have not taken the hint of its probable nature, from knowing that the eye is lost in precisely the same way, and under similar circumstances, from other exanthematous diseases — viz. measles and scarlatina (and in rare instances, also, from erysipelas and typhus). They would not, I suppose, contend that the papulæ of measles destroyed the eye; and yet, in small-pox, they attribute its loss entirely to the eruption. They state, that the conjunctival membrane is continuous with the skin, and separates under similar circumstances; and hence appear to conclude, and, I confess, with great apparent reason, that it must also be subject to the eruption of small-pox. Physiologically this may be correct, so far as it regards the skin; but it is mere theory so far as it relates to small-pox.

There is another strong argument against the ulcer in the eye being caused by one of the pustules of small-pox. They are beginning to subside on all other parts of the body, before the eye is attacked. It has been supposed, that as the cornea is so dense and unyielding, a longer time would be required to mature the pustule. The supposition is not good, for this reason: the great regularity observed in the appearance and disappearance of the spots on other parts of the body, beginning first on the face, and following in succession on the extremities, would hardly be departed from in the eye;—if a longer period were really required for their production in this part, it would still be doubtless a determinate one, and bear relation as to time in different patients; whereas the ulcer on the eye has its commencement, at all times, from the 10th to the 25th or 30th day succeeding the day of eruption. The most confluent cases of small-pox are daily seen, where the eruption is abundantly scattered over the face, without any affection of the eyes at all; the proportion of those who suffer from variolous ophthalmia not being more than one in thirty-nine. This I know from having examined the register at the Small-pox Hospital, which is kept with great care, and in which every thing of importance regarding each patient is always noted. When I wish to arrive at something like a fact on any point, I take a thousand successive cases. I have done so in this instance, counting those who died as well as those who recovered, and find that twenty-six have suffered from variolous ophthalmia, which is one in thirty-nine; and of these, eleven lost an eye, about one in a hundred—precisely one and a tenth. Thus, then, I think we may fairly conclude, that if the conjunctiva were actually subject to the eruption of small-pox, as well as the skin, it would hardly escape mischief so often.

At the same time, it should be clearly understood that this destructive ulceration of the cornea is essentially allied to the inflammation of the skin produced by the exanthemata. The injury takes place when the system has been much reduced by inflammatory disease of the surface, and when fever still continues. The body may be quite as much debilitated by other diseases, also inflammatory, without the eye suffering. It is met with after small-pox, measles, scarlatina, erysipelas, and typhus. The latter, although not usually accompanied by eruption, has been associated with a good deal of petechiæ during the last two years, shewing the skin to be implicated in the derangement; and the liability of the cellular membrane to slough after typhus is well known. I have never yet seen any part of the conjunctiva slough but that covering the cornea; hence I suppose the seat of injury to be in the latter, or more frequently, perhaps—especially in mild cases—in the cellular membrane, between it and the conjunctiva.

The particular local affection that causes the destruction of the organ of vision in variola, begins generally on the eleventh or twelfth day, or later, from the first appearance of the eruption, and when the pustules on every other part of the body are subsiding. It comes on after the secondary fever has commenced, with redness and slight pain in the part affected, and very soon an ulcer is formed, having its seat almost invariably at the margin of the cornea: this continues to spread with

more or less rapidity, according to the degree of secondary fever presen; in the more violent cases an ulcer being formed on each side of the cornea at the same time, shewing the disease to be advancing with great severity, and presenting a tolerably certain indication that the eye will be entirely lost. The ulceration passes through the different layers of the cornea, until the aqueous humour escapes, extending itself too laterally, and if the part of the cornea destroyed be large, the iris will protrude through the opening. In the worst cases there is usually hypopion, and when the matter is discharged the crystalline lens and vitreous humour escape; or the humours may escape from deep and extensive sloughing in the first instance, without the formation of matter; this being succeeded, of course, by the total annihilation of the form of the eye as well as the sight. In some instances the ulceration proceeds very rapidly. I have more than once seen the entire cornea swept away within forty-eight hours from the apparent commencement of the inflammation; and, what is singular, now and then the mischief goes on without the least pain to the patient, or his being aware that any thing is amiss with his eye. An example lately occurred, shewing the strong disposition for the ulcerative process to attack the margin of the cornea: it extended all round the anterior part of the eye to some depth, loosening three or four layers of the cornea almost in an entire state, as they may be separated from the dead eye by maceration.

This destructive ulceration, or sloughing, or whatever term may be given to it with most propriety, never takes place in a severe degree but when there is a high state of secondary fever present. That is a point which should be particularly remarked. The experienced practitioner, in the treatment of small-pox, will always know beforehand when it is likely to occur. There will be a hot and dry state of skin, rapid pulse, thirst, loaded tongue; these having been preceded by a very confluent state of the disease; and then it is that some fearful consequence may be apprehended, such as the loss of an eye, formation of large abscess, and sloughing of the cellular membrane, extending often over the greater portion of a limb —or, may be, formation or deposit of matter in one side of the chest. Some of these serious results may be expected when the secondary fever runs high, experience alone directing the practised eye to an early knowledge of the probable termination.

The close resemblance between sloughing of the eye and sloughing of the cellular membrane in other situations, and its occurring also about the same time, lead me to suppose that it is essentially of the same nature; and whoever has had much experience in the treatment of small-pox, and will give this subject attentive consideration, will, I think, come to the same conclusion. The cornea is composed of five or six layers, which must be allowed, as they are separable but not loose, to have some connecting medium; and it is reasonable to suppose that that connecting medium may bear resemblance to the cellular membrane elsewhere, and hence be subject to like attacks. It would be difficult, perhaps, to demonstrate this resemblance further than by analogy. Other soft parts, complete in themselves, but in close contiguity, have a connecting substance that we call cellular membrane. This substance, whatever it is, between the layers of the cornea, performs the same office. The beautiful structure of the eye would require it to be considerably modified, but still not altogether different, inasmuch as the object is the same, and nature being simple in her arrangements would vary it, we may presume, as little as possible. It may be asked, why does the eye suffer more frequently in small-pox, from sloughing, than any of the other soft parts? My answer would be, that I doubt whether it does. I have stated, that only one person in a hundred in the aggregate, is afflicted with the loss of an eye from small-pox; and if note were taken of the sloughing of the cellular membrane in other parts, it would be found to take place quite as often, if not oftener, in any individual part, as in the eye. Why one part should be fixed on in one person, and another in another, we are quite at a loss to explain; but of this I am sure, that during the last three years there is not any one external part of the body that I have not again and again seen the seat of sloughing of the cellular membrane.

The importance of the eye, and the disfigurement occasioned by its loss, might lead us to believe, perhaps, without careful inquiry, that it formed more frequently than any other the seat of

this injury. The scalp, palpebræ, about the beard in men, neck, elbow, knee, and dorsum of the foot, I feel quite certain are much oftener assailed than the eye by inflammation and sloughing. We also see in all those situations just enumerated, as well as in the eye, inflammation of a less degree of severity, which subsides without being followed by ulceration and sloughing of the skin and cellular membrane, still further illustrating the similarity of the two.

My object in bringing forward this subject has been to explain the pathology of the injury sustained by the eye in variola, more than to offer any remarks on its treatment: it may, however, be considered that that ought not to pass by altogether unnoticed.

Although it is to be lamented that in the severe forms of attack our efforts to save the eye will be of no avail, there are still others in which we can be of great use. Like all other diseases it has various grades. Patients are usually much reduced at the time the ulceration first makes its appearance, and all active treatment would be out of the question; but now and then it is seen in a stout full habit, with strong pulse, from whom it is desirable to take blood generally. This should be done with great care, but few being able to bear it. In others, if the eruption have subsided, so that the temple can be pretty well cleared, blood may be taken by cupping. This mode of abstracting blood will be found more eligible, in most instances, than general bleeding; or blood may be taken beneficially by leeches. After the fomentation, cold or tepid decoction of poppy should be applied to the eye, or a lotion of water with a small portion of spirit. I rather prefer simple water. Careful sponging of the eye two or three times a day with warm water, or warm milk and water, should always be enjoined: a purge given every second day, of calomel and rhubarb, if required, and saline medicine with antimony; milk diet. These means to be regulated according to circumstances.

Cases may be selected in which it is advisable to touch the ulcerated spot with lunar caustic scraped to a point; it appears sometimes to arrest the progress of the ulceration. I should rarely depend upon this alone; it forms one of several means worthy of consideration. Two or three applications of leeches will often be found necessary; or cupping, followed on a subsequent day by leeches, regulated in number and repetition by the violence of the inflammation and strength of the patient. When the ulceration is accompanied by great debility, with but little remaining febrile excitement, depletion must not be thought of in any form. The patient should then be well nourished—perhaps wine may be necessary; our attention being mainly directed to the preservation of life on any terms.

I disapprove, in most instances, of the use of mercury given so as to affect the mouth; it only increases the ulcerative process. But we see sometimes the inflammation get into a chronic state, and the ulcer remain stationary, in which mercury may be used with much benefit. The inflammation disappears under its use as if by magic, and returns if the remedy be suddenly discontinued. I would have it given, however, in repeated doses, with great circumspection, as it is calculated to do harm when misapplied. Blisters to the temples should be tried, as they are often serviceable.

The prolapsed iris may render it desirable, in the chronic state, to resort to the application of belladonna to the brow; or the edge of the ulcer in the cornea may require to be touched with the nitrate of silver. It is almost impossible, in a paper of this sort, to allude to all the means of relief that may be necessary to suit each individual case; but I have mentioned those most likely to be advantageous; and finally, I have pleasure in stating, as the result of my experience, that although the appearance of the eye may be very unfavourable in cases where the inflammation and ulceration have been severe, but not so violent as to cause the discharge of the humour, in a few months after the patient has otherwise recovered his health, very great reparation usually takes place also in the eye. The leucomatous state will in a great measure disappear; and unless the ulcer have been deep, and exactly in the line of vision, very useful sight may be regained.

ON THE NEW VACCINE VIRUS.

To the Editor of the Medical Gazette.

SIR,

I HAVE pleasure in forwarding you a copy of the Report sent to me by the Glasgow Faculty of Medicine, which I am certain will be very interesting to many of the readers of the GAZETTE.

I am, sir,
Your obedient servant,
J. B. ESTLIN.

Bristol, April 23, 1839.

Report of the Committee appointed by the Glasgow Faculty of Medicine, to superintend the Employment of the New Virus in the Vaccine Institution.

Before proceeding to the immediate object of this Report, the Committee consider it their bounden duty to bear testimony to the prompt and courteous manner in which Mr. Estlin complied with the request of the Faculty of Medicine for a supply of the recent lymph, which he has been the honourable and praiseworthy means of introducing to the notice of the profession.

As the letter inclosing Mr. Estlin's vaccine points stated that the use of this virus was occasionally followed by intense inflammation, and even abscess, in the situation of the vaccine vesicle, your Committee, fearing lest the occurrence of such accidents might prove detrimental to the institution, and diminish their opportunities of observation, at first applied the virus to one case only, and then to a single puncture on one of the arms. On the eighth day this pock presented a most favourable appearance; and that your Committee might have a fair opportunity of judging of the course of the pock, it was left uninjured, and its progress observed from time to time by one of their number, who reported favourably of it throughout.

After this the virus was brought fairly into use; and since the 28th of December 43 children have been inoculated with it, and upwards of 150 charges have been distributed to members and other practitioners in town and country, so that this virus is now extensively diffused over this neighbourhood; and as your Committee have been at the pains to ascertain the results of the experience of many of these practitioners among their own private patients, they have embodied these results with what fell under their own observation at the Institution.

The first point in connexion with the new virus which your Committee would bring under notice, is the superior success attending its employment. Among these 43 cases not a single instance is recorded in which it had failed; whereas, in the 43 cases immediately preceding these on the record, ten instances of failure, and nine of spurious or imperfect vesicles, are noted. To this subject your Committee will again recur.

2dly. As to the appearance of the vesicle on the eighth day, this has been in some degree modified by the size of the scratch, or scratches, made in vaccination; but at this period the vesicle has generally been in an immature rather than an advanced state, and the areola around it has been very slight, and in many cases entirely wanting. The centre of the vesicle has generally been much depressed, bearing the appearance of being firmly adherent to the substance beneath, and this appearance becomes still more marked as the pock becomes more matured. Indeed, the surface of the pock upon the eighth day has been rather flattened, and the quantity of virus contained has, in the majority of cases, been small; but this has always been perfectly pellucid, untinged by purulent admixture, and apparently in the most favourable state for the development of its peculiar properties.

3dly. The progress of the pock from the eighth day, or period of maturation, as this has been commonly considered, to the point of cicatrization, has generally occupied from ten to fourteen days; and although in none of the cases which have come under the observation of your committee has the inflammation attending the pock run higher than they have repeatedly seen it in former cases, yet in a few instances they have about the fourteenth day observed in the site of the pock a deep cavity, resembling not a little that formed by caustic when the eschar has nearly dropped off. This deep and angry-looking sore has alarmed the friends of the child very much; but

in none of the cases did the ulceration shew any disposition to extend. Under the application of some mild absorbing powder, the sore has gradually filled up, taken on a scab, and become cicatrized; and in a few cases, when it has been examined, the cicatrix has been well marked.

4thly. The constitutional symptoms have been, generally speaking, slight; but in some cases which have been closely under our observation they have come on early, been severe, and seemed to have no relation to the state of the local affection.

Before closing the report, your Committee feel called upon to make a few remarks upon the failures which occasionally occur in vaccination, and upon the probable causes to which this may be attributed, premising, that your Committee found these remarks chiefly upon the last volume of the Vaccine Record, which extends over a period of rather more than three years, viz. from August 1835 till December 1838, and embraces 2041 cases. During a portion of that time the appearance of each pock was minutely recorded, and during the whole period any deviation from the usual routine was noticed, and the state of the child's health, and especially the condition of the skin, accurately recorded.

From this record it appears, that at four different periods there occurred an entire degeneration of the lymph, and a consequent complete failure of the vaccination. The record farther shews that these failures have been preceded by certain circumstances which the Committee think worthy of being noted. In the first place, a few isolated repetitions are recorded. In the second place, the pocks are remarked as being highly inflamed, or surrounded by a very diffuse areola. In the third place, many premature pocks are recorded; and finally, a vast succession of failures led to the renewal of the supply of matter from a new quarter.

The last of these entire degenerations occurred immediately before the introduction of Mr. Estlin's virus; and the whole of the children vaccinated upon the day week preceding, presented, instead of true vesicles, raw surfaces, resembling very closely spots that had been vesicated and then denuded of the cuticle. Some of these surfaces were perfectly dry, and thinly scabbed over; others were pulpy looking, and gave issue to a profuse discharge of serum. In fact, it appeared that in these cases the pock had run through its entire course in the time usually allotted to the mere development of the vesicle.

Your Committee, with these facts before them, are inclined to regard want of care in the selection of the pock to be vaccinated from, as one of the prime causes of the failures which have occurred, and even of that degeneration of the lymph which has been complained of; and they would earnestly recommend the selection of pocks for vaccination which are free from areola or much surrounding inflammation, as there is every reason to believe, that when a high degree of inflammation accompanies the vesicle on the eighth day, the pock is too mature to yield an active and pure virus.

Indeed, when the pocks, upon any given day, present the inflammatory character, your Committee would rather recommend the falling back upon the vaccine points than making use of matter from the arms of the children; and, that a good supply of these points may be always on hand, your Committee would farther recommend that a number of them should be charged from time to time, from any decidedly characteristic pock which may come under observation. At all events, your Committee think it would be proper to renew the supply at intervals of two or three months, using the matter laid past at these intervals in preference to the recent lymph. In this manner it will be obvious, that at the end of thirteen years, the matter will only be as many degrees removed from the original source as, in the common routine, it is in one. Your Committee would farther recommend that the appearance of each pock should be noted in the record.

In conclusion, with the conviction that the matter (in our institution, at least) has shewn a tendency to the production of premature vesicles, your Committee regard the introduction of Mr. Estlin's lymph as a great boon to the public and to the profession; as it is very questionable whether these premature vesicles confer that immunity from the variolous disease which vaccination is calculated to bestow.

(Signed) J. P. Glen,
Convenor.

ANALYSIS OF BRONZE.

To the Editor of the Medical Gazette.

Sir,

The kindness of Mr. Richard Battley (whose laboratory is always open for scientific purposes, and whose name is so well known to the profession in general, and to the readers of the Medical Gazette in particular, that any eulogium from me would be unnecessary), has put it in my power to send the following details of an analysis of the "bronze," which may perhaps possess sufficient interest to render them worthy of a place in your journal.

The sample selected for the purpose was of the bronze sold at thirty-five shillings per pound; and I cannot do better than use the words of Mr. W. E. Heathfield, chemical assistant in Mr. Battley's laboratory, whose kindness and unwearying assiduity have enabled me thus to offer you the results of his investigations.

The appearance of the bronze is that of a highly burnished golden yellow powder, consisting, when examined closely, of minute spiculæ, adhering to the paper in which the bronze is folded, and leaving a smooth and almost greasy feeling when rubbed between the fingers. The bronze being put into a glass, and water added, a portion rose to the surface and floated there, forming a beautiful film, like a coating of gold leaf. When heated in a platina crucible over a lamp, and brought to a temperature of about 300°, the bronze gave off some oily vapour, and suddenly became ignited throughout the mass, burning like tinder; and on discontinuing the heat, the brilliant yellow coloured powder had disappeared, a dull brown colour being left; but if the heat was withdrawn just before ignition took place, a dull brass colour was the result; and the shade of hue varying between that of copper and that of brass, seemed to depend upon the degree of heat applied.

On heating it in a glass retort without access of air, the colour changed more slowly, and ignition did not follow; but a few drops of oil trickled down the beak of the retort, and a little steam also was formed, probably from a decomposition of a portion of the oil. When heated alone on charcoal, under the blowpipe, it immediately changed colour; the oil was dissipated; a minute quantity of white deposit coated the charcoal, and numerous metallic globules resembling copper were produced.

Strong hydrochloric acid acted only partially on the powder, not dissolving it entirely; no more did strong sulphuric acid, even when assisted by heat. Strong nitric acid acted upon it, producing violent effervescence, and an abundant disengagement of nitrous fumes; still it did not cause complete solution, a small quantity of greyish powder being left unacted upon. To the nitric solution, which was of a deep green hue, hydrochloric acid was added, and a white precipitate took place, wholly insoluble in nitric acid, but immediately disappearing on the addition of a few drops of liquid ammonia; and this precipitate, on exposure to light, assumed a slate colour, indicating the presence of silver.

Ferrocyanate of potash being added to a portion of the solution, produced a chocolate-coloured precipitate; and on the addition of liquid ammonia to another portion, a plentiful precipitate was obtained, wholly soluble in an excess of the precipitant, and producing the beautiful azure blue colour characteristic of copper.

The greyish powder left on the filter after the action of nitric acid resisted the action of acids most obstinately; nitro-hydrochloric acid, however, after long-continued boiling, took up a little of it; and the solution was turned to a brownish black by a stream of sulphuretted hydrogen. The acidulated solution being neutralized by a solution of pure caustic potash, a white precipitate appeared, which, being collected, dried, and ignited in a crucible, yielded the lemon yellow colour distinguishing the hydrated peroxide of tin.

A portion of the bronze was boiled in a strong solution of caustic potash for eighteen hours; and this process materially diminished its lustre, leaving it of a dull brass colour, but did not wholly deprive it of the oil, as was indicated by the appearance of an oily vapour on the heat of a lamp being applied. The bronze was next digested for thirty-six hours in liquid ammonia, at a heat of about 120°: the effect of the alkali was to deprive it of all brilliancy, leaving the

ammonia tinged deep blue, and converting the bronze into a dull brown coloured powder, which, under the microscope, appeared to contain many particles of metallic copper.

Two hundred grains of bronze being digested in dilute nitric acid at a gentle heat, rapid action took place, accompanied with much effervescence and disengagement of nitrous fumes, and leaving undissolved some greyish white powder, which, after a second boiling in acid, weighed twenty grains. The nitric solution was of a deep green colour; and to this hydrochloric acid was added, as long as any precipitate fell; and this precipitate being first washed with dilute nitric acid, and afterwards with distilled water, weighed, when dry, twelve grains, and contained nine grains of metallic silver. A polished iron rod was next immersed in the solution, and speedily became coated with metallic copper, weighing, after due edulcoration, one hundred and sixty-six grains. The portion unacted upon by the nitric acid, and weighing twenty grains, was next boiled in nitro-hydrochloric acid; a little of it was dissolved, and a dark brown precipitate produced by the addition of liquid sulphuretted hydrogen; a rod of zinc placed in the solution became coated with tin; and the nitro-hydrochloric liquor being evaporated to dryness and water added, yielded a white precipitate, determining the existence of metallic tin in the quantity of sixteen grains.

Thus, 200 grains of bronze contain—	Silver	9 grains.
	Copper	166 grains.
	Tin	16 grains.
		191
Oil, dissipated by heat and loss in the process		9
		200 grains.

The results obtained in the foregoing processes were confirmed by the following experiments:—

A hundred grains of bronze were treated with dilute nitric acid, at a gentle heat, and an incomplete solution was the result, five grains of greyish powder being left; the liquor passed the filter with difficulty, being prevented by the separation of the oil; and on evaporation of the nitrate and subsequent dilution, five grains more of this powder, insoluble in nitric acid, were obtained. Hydrochloric acid was next added to the nitric solution, and a precipitate fell weighing six grains, and indicating four grains and a half of metallic silver.

Caustic potash, in considerable excess, was next mixed with the nitric solution, and boiling heat applied for fifteen minutes; a blue precipitate was the result, becoming brown on exposure to heat, weighing, after edulcoration and ignition, a hundred and four grains, and indicating eighty-three grains of metallic copper. The remaining solution being perfectly neutralized with hydrochloric acid, and a stream of sulphuretted hydrogen transmitted through the liquor, no precipitation resulted, proving the absence of zinc. The undissolved residue which was treated with nitric acid in the first instance, was found to be partially soluble in hydrochloric acid, the precipitate, however, which took place on the addition of water, was wholly so; and the solution presented, with sulphuretted hydrogen, &c. &c., all the characteristic appearances of tin, so the metallic tin may be estimated at eight grains.

Thus 100 parts of bronze contain—

Silver	$4\frac{1}{2}$
Copper....	83
Tin	8
	$95\frac{1}{2}$
Oil and loss	$4\frac{1}{2}$
	100

I had hoped to have been able to have offered other analyses of different bronzes, which might, perhaps, explain the reason why one sort should act so much more violently than another; as, for instance, the cheaper sort mentioned by A. B. An analysis of this was performed by Mr. Sandall, of the chemical laboratory of St. Thomas's Hospital, who kindly volunteered his aid, and the subjoined are the results which he obtained in his experiments, which, in justice to that gentleman, I must state

were interrupted and hurried by circumstances over which he had no control.

Copper.....	17·64
Tin	2·35
Silver	1·23
Zinc.....	3·50
Water and Oil	0·82
Loss.....	1·72
	27·26

It will be observed that, besides the different proportions of the other metals, zinc forms a component part of this bronze; but how far its presence could render the action of the bronze more violent, I confess myself wholly ignorant. Indeed the action of zinc, as a medicine, appears to be very little understood, and it has not been in my power to obtain any *renseignemens* as to whether the zinc miners or smelters are affected by the nature of their occupation or not, or, if they are, in what manner.

Nothing is more probable than that the bronze varies much in different samples, and that each manufacturer has his own process and proportions for mixing the metal used for the purpose; and it is also not unlikely that the violence of the effects of the cheaper sort may have been rather exaggerated by my informant.

With regard to the treatment of those suffering from the use of the bronze, I have said but little; for few cases have come under my immediate care, though many under my notice, and quite enough in number to establish the fact of its pernicious influence on the workmen employing it, and to prove that from its use—

> "Macies et nova febrium
> Terris incubuit cohors."

Such, probably, will always prove the case to a certain extent: as our arts improve, new inconveniences must arise, and new diseases result; and in the course of time, from the march of science and perfection of processes, new remedies will be discovered, and the evil effects in their turn be removed.

The use of the respirator would probably be of great service to the bronze workers, by preventing the inhalation and swallowing of the finely subdivided metallic dust. This would, to a great extent, obviate those symptoms which I have ventured to call constitutional, and referred to the poison being taken directly into the lungs and stomach. A careful observance of cleanliness would also prevent the workmen from suffering so severely from the most distressing local symptoms caused by the direct application of the powder.

Let me, however, repeat my hope, that this very brief and incomplete notice of the effects of this powder, may arouse the attention of those of my medical brethren who, from their larger opportunities of observing disease in our great hospitals and manufacturing towns, will be able to favour the profession with the results of their experience as to the cause and treatment of this new complaint. If it should have the effect of calling their attention, and that of our manufacturing chemists, to this disease—its origin, its nature, the mode of obviating and the mode of curing it—it will be a source of the greatest satisfaction to me; and in this hope, allow me to sign myself, sir,

Your obedient servant,

GURNEY TURNER.

General Dispensary,
Aldersgate Street, April 23, 1839.

MEDICAL GAZETTE.

Saturday, May 4, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

EXPERIMENTS ON LIVING ANIMALS.

IN our last article on this subject, we endeavoured (and we hope successfully) to shew, that if the result of such experiments be only the acquisition of truth, they are at least as justifiable as the commonly sanctioned and encouraged pursuits of hunting, fishing, shooting, &c. (when not followed for the sake of subsistence), or as the studies of those branches of natural history in which pain and death are inflicted upon living and sensitive creatures. In all these, and in a thousand other cases of the same kind, pain is inflicted upon animals solely for the gratification of mankind; and the concurrent opi-

nion of a vast majority of the world sanctions, and thereby appears to justify them—at least in most instances. Vivisection is, perhaps, more generally discountenanced than the rest; but this is not because it presents, when properly practised, any peculiar characteristics of cruelty, but because it can be the pursuit of only a few, and because the majority of people can neither understand nor appreciate the intellectual pleasures of its object—the discovery and possession of truth—though they are all alive to the more animal delights of manly sports.

But we promised to prove that experiments on living animals are allowable on higher grounds than the commonly admitted principle, that the pursuit of pleasure to man is justifiable, under certain limitations, although it causes pain and death to his fellow-creatures; and we will now point out some of the many cases in which such experiments have led to eminently and vitally useful discoveries.

If every man in the present day, who received a wound of a large artery, was by it consigned to certain death, either immediately or after lingering illness and the tortures of attempted cures—if for every aneurism, amputation were deemed necessary, and in every amputation the application of a hot iron, or the use of red-hot knives, were the only known means for arresting the hæmorrhage that would ensue—there are few who know any thing of the frequency and the terror of such injuries, but would deem the discovery of alleviations for them cheaply bought at any price of pain or death to lower animals. Yet, for all these sources of human suffering and destruction, experimental science has furnished secure and comparatively painless remedies. It would now be impossible to calculate in how many thousand instances, besides those just enumerated, life has been prolonged, and pain decreased, by a knowledge of the mere fact and method of the blood's circulation; yet this was, as Harvey tells us, only obtained "cum multis vivorum dissectionibus *;"—"multa frequenter et varia animalia, viva introspiciendo"; by observations "in cordibus omnium adhuc viventium animalium, aperto pectore, et dissecta capsula quæ cor immediate circumcludit." If man could by any other means have attained this knowledge of the circulation, Harvey would assuredly have acquired it, though its phenomena were so obscure that his immediate predecessors believed they were "known to God alone." And will any think the destruction of animal life, which he caused, to have been unjustifiable, when they have considered that for every animal sacrificed, at least one human life has been saved, and thousands of human pains have been alleviated?

Thus much for the general discovery of the circulation, the knowledge of which extends its benefits through every department of medical and surgical practice, and daily confers blessings on all the civilized world. But its applications in many cases could not be certainly acquired without the infliction of farther suffering upon animals. The use of the ligature of arteries was never surely practised till the changes to which it gave rise, and the certainty of its value had been ascertained by experiments; and this, for the want of which, lives innumerable were sacrificed only a few centuries ago, and in place of which a red-hot iron was applied to almost every wound that bled profusely; this is now repaying the lives of animals which it required, by an abundant harvest of life and comfort to mankind. Again, the most splendid achievement of modern surgery—the cure of aneu-

* It should be enough to sanction the occasional use of vivisection, that these words commence Harvey's Treatise—the most important to the life of man that ever was published.

risms, by tying the artery on which they are formed, was the work of Hunter, an occasional vivisector; and can he be fairly stigmatized, if to attain such an end, he did not hesitate to employ what are foolishly called cruel means? Ask those, whose lives and limbs he and his successors have saved.

These may suffice as examples. Almost as many might be given in nearly every other system of the human body, besides the circulatory which we have chosen, in which facts, discovered by experiments on living animals, and in many cases discoverable by no other means, have been the source of the greatest comforts to mankind. The knowledge of the mode of reparation of fractures and wounds generally;—of the origin and seat of many diseases of the nervous system;—of the powers of the body in the repair of injuries and diseases;—in short, of nearly all that is known and practised in medicine, has been in part acquired by this method of investigation.

If, then, vivisection has conferred these benefits, is it not fairly justified? It may not be absolutely necessary, for men might have died under many circumstances from which they are now saved, perhaps without much injury to their survivors. But it is at least as necessary as many death and pain-inflicting practices which even Dr. Styles does not repudiate, as the eating of game or poultry, of small fish, and of all delicacies and superfluities that once enjoyed life. What is there that we enjoy or need for food, or covering, that is not obtained by pain to our inferiors? That alone are we completely justified in using, if we are not justified in occasionally resorting to experiments on living animals. Experiments are essential to the progress of medicine; and men may choose whether they shall be made on themselves or on brutes.

To express, then, our concluding opinion: we think that, *under certain restrictions*, experiments made on living animals in pursuit of truth, for its own sake only, are as justifiable as any of the sports or sciences in which similar pain and death are inflicted, amongst which, mentioning only those which receive the sanction and encouragement of estimable men, we would include the sports (not the trades) of hunting, fishing, and shooting, in all their varieties; and the studies of all branches of zoology for which private collections are made. And we hold that the same experiments, if they lead to the good of mankind, by suggesting remedies for disease and pain, or providing the means of lengthening life, are not only justifiable but laudable, and worthy of encouragement by public sanction and approbation.

But let us now mention some of the restrictions which should be placed upon their performance, beyond those which the commonest sense of humanity and decency would teach. The first must of course be, that this mode of investigation should never be had recourse to till it is sufficiently clear that the fact pursued neither is, nor can be, proved by any other evidence which is within reach, nor by any other more gentle mode of inquiry. We would enter as strong a protest as any—the warmest professor of humanity, against the too common habit of employing this class of experiments as the shortest road to the learning of truths which are either already established, or might be settled by evidence which has been already published. The man who, either from indolence, or from a desire to appear original, neglects the study of previous records, is, in every experiment which he performs for the discovery of what they contain, guilty of wanton and inexcusable cruelty. It would be always

well to remember, too, that the slow and patient investigation of the facts naturally presented to us by disease or accident, is far better than the hasty immature manner in which experimental attempts to imitate them must always be examined. Too often animals are tortured, because the facts are thought to occur too slowly in the course of nature; and the conclusions too often correspond in their crudeness with the hastiness of the study.

But supposing that it appears that the anticipated fact is not and cannot yet be determined, far more precaution ought to be employed than is usual, to decide before experimenting what is at present the exact state of the question, and what are the points that are yet undecided, that they only may be looked for. It is far too common for experimenters to proceed at hazard, and some of them seem to cut up dogs as if merely to see what will come of them. Such practices as these cannot be too strongly censured; they are as contrary to philosophy as to humanity.

The practice of repeating experiments of which the results are already well known is even more odious. Yet these are what are most commonly exhibited to classes—to teach anatomy, it is said, but really to obtain *éclat* for the lecturer, who is deemed original and enterprising for it. There can be no need whatever for such a practice; no man will be wiser for having seen animals tortured; and if the lecturer's word be deserving of confidence, no pupil will refuse to receive his assurance of facts, or desire to have them illustrated by cruelty. The majority of M. Magendie's experiments are of this class; and we are quite sure that no man has added so little to the possessions of science, in proportion to the cost of its character, as he has done. He has drawn down odium on the whole profession of scientific medicine, and the boons he has obtained for it are in no degree commensurate with this injury.

When the necessity of an experiment is thus fairly and conscientiously decided, every means should be resorted to, that its performance may be attended with the least possible pain, and that at the same time all the information required may be securely and certainly obtained. We cannot here point out all the precautions necessary for these purposes—we are sorry to say that only experience will teach some of them—but the majority will be suggested by humanity and common sense. In all possible cases the animal should be deprived of sensation, and artificial respiration maintained. Wherever it is admissible, animals already consigned for destruction, or the lower animals, should be employed; for the latter will suffer far less pain, and for the former it will be but a somewhat more painful mode of death. In every case the greatest expedition that is consistent with security should be observed. The pain should never be prolonged to gratify curiosity; and life should afterwards be saved if possible, and the necessary pain compensated by kindness and the administration of every comfort.

If these and some similar restrictions be carefully and kindly observed, a man may experiment on living matter with as good a conscience as he can on the dead. Let him only fairly consider by what motives he is induced to resort to such an investigation; that they are either to ascertain some well-indicated and unknown fact which cannot else be decided, or that they are to attain that which will be beneficial to his fellow-men, and in the present constitution of society he may fairly claim its approbation.

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ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

April 23d, 1839.

SIR B. C. BRODIE IN THE CHAIR.

A Case of Congenital Absence of the Pericardium. By T. BLIZARD CURLING, Esq., Assistant-Surgeon to the London Hospital, &c.

THIS observation was made on the body of a gardener, aged 46, who, after exposure to wet, was admitted to the London Hospital in January 1839, affected with paralysis, commencing in the lower extremities, and died in about three weeks. After death, besides some other interesting and rare morbid appearances, on raising the sternum with the costal cartilages, the heart was seen lying close in the cavity of the left pleura, in immediate contact with the left lung, without any appearance whatever of pericardial sac. The heart, which was invested with the reflected portion of a pericardium, was rather large and flabby, and in its natural position. There was a small white opaque spot on the left ventricle, and also another on the left lung, where it was most exposed to the heart's motion. The author describes the relation of the left pleura to the great vessels and to the right pleura, and the deviation from its usual course of the left phrenic nerve, which he considers to be a discriminative mark of congenital deficiency of pericardium from that which may ensue from diseases. The only semblance of pericardial sac that could be discovered, was a pouch of serous membrane above the diaphragm, at the point where the lower vena cava joins the heart. The author compares this case with those which he considers genuine similar cases recorded by other writers, and concludes with some remarks on the beneficial effects of a pericardial sac in isolating the heart, and thereby protecting it from the communication of inflammatory affections so frequently occurring in the lung.

Remarks upon an Instrument for the Cure of Club-Foot; with Description of a Case of Congenital Varus, representing one of the highest Degrees of that Deformity, cured at the Age of 23 Years, by dividing the Tendo-Achillis, the Tendon of the Musculus Abductor Pollicis Pedis, and the Plantar Fascia. By Dr. GUSTAVUS KRAUSS. Communicated by W. LAWRENCE, Esq. F.R.S. &c.

The author's object in this paper is chiefly to impress upon the minds of surgeons operating for the relief of the different kinds of club-foot, that the success of the treatment, especially in aggravated cases, depends mainly on the perfection of the instrumental means employed for maintaining the position or form of the foot after the division of the tendons shall have been effected. With this view he gives at some length the details of a case of great deformity in a person of 23 years of age, in whom he operated in the several ways described in the title, in Dec. 1837, and subsequently. Casts were produced of the legs of this patient prior and subsequent to the several operations, and the instruments employed were also exhibited in illustration of the descriptions in the paper, the ingenious adaptation of which, to the various ends proposed it would be impossible adequately to comprehend without manual investigation.

PHYSICAL SOCIETY, GUY'S HOSPITAL.

April 20, 1839.

H. GREENWOOD, ESQ. IN THE CHAIR.

Treatment of Syphilitic Iritis.

MR. MENZIES read a case of syphylitic iritis.

Hannah Briggs, æt. 20, was admitted into Dorcas ward, during the autumn of last year, under Mr. Cooper, for a syphilitic scaly eruption following a primary sore and bubo. She is a woman of cachectic appearance, brought on by her habits of living and by the abuse of mercury, which she has taken in large quantities; she has mercurial pains in her joints and limbs. Mr. Cooper ordered her iodine and sarsaparilla, under which treatment she rapidly improved. On the night of Saturday, 1st December, she was roused from sleep by a violent shooting pain in the eyelids, which subsided towards morning; she felt the pains at intervals during next day, and also observed a more than ordinary lacrymal secretion; towards night the pain again returned, but was much relieved by the application of tepid fomentation.

Dec 3.—She complains of pain in the balls of both eyes, and in the temples; there is profuse lacrymation; the conjunctival vessels are slightly injected, not sufficiently, however, to obscure those of the sclerotic, which may be distinctly seen as a zone of a foxy or cinnamon-colour round the cornea. Irides dull and sluggish in their movements; pupils of natural size. Mr. Cooper ordered—

V. S. ad ʒxiv.; Hydrarg. Chlorid. gr. iss.;

Pulv. Opii, gr. ¼, tertia quâque horâ; and blisters behind the ears.

4th.—Has had a restless night; pain in the eyes, forehead, and temples, severe; vision indistinct; the fibrous texture of the irides lost, from the effusion of lymph of a light-brown colour. She was cupped to twenty-four ounces, and ordered to continue.

5th.—Much worse; iris of left eye more contracted; pupils are irregular; irides covered with diffused patches of lymph, not taking on a circumscribed or raised appearance; cornea quite clear; sclerotic highly injected. It was discovered that the blisters had, by some mistake, not been applied, and the calomel and opium not given. Mr. Morgan was requested to see the patient: he ordered—

Cucurbit. cruent. Nuchæ, ad ℥xx.; Empl. Cantharid. postea; Hydrarg. Chloridi. gr. iij.; Pulv. Ipecac. gr. iij. 4tis hôris.

6th.—Has not slept; pain in the head and ball of the eye intolerable; complains of flashes of light; cornea clear; irides widely dilated; vision nearly extinct.

Cucurbit. cruent. ad ℥xx. et perstet.

7th.—There is no diminution of suffering; cannot distinguish the light; pupils widely dilated.

V. S. ad ℥xv. Pergat.

This was followed by a relief of her symptoms; she can now distinguish objects. At night, the pain in the eyes having returned, she was again bled to 12 ounces, with the same result.

8th.—She is free from pain; can see more clearly; pupils of natural size; part of the effused lymph absorbed; sclerotic nearly free from vascularity; gums are sore. In the evening the pain again returned, and she was once more bled to 12 ounces.

9th.—Sclerotic free from vascularity; has passed a comfortable night; left iris nearly restored to its natural brilliancy; sees pretty well; mouth very sore.

Omit the mercury.

10th.—The irides have nearly resumed their natural appearance; she sees perfectly; is properly salivated; cold perspiration, and nearly in a state of collapse.

Ordered Julep. Ammoniæ; wine and egg.

She soon rallied from her exhausted condition, and continued rapidly to improve. She remained in the hospital a short time longer for the eruption, when she was discharged cured. She has since married, and shewed herself a few days back at the hospital in perfect health.

In proceeding to make a few observations on the subject of syphilitic iritis generally, and on this case in particular, the author took occasion briefly to review the state of surgical opinion in regard to the question whether syphilitic iritis is to be considered a genuine secondary symptom of syphilis, as believed by Lawrence, Mackenzie, Carmichael, and many German authors; or as taught by Travers, Morgan, &c.—"that it is rarely unaccompanied or unpreceded by the symptoms called mercurial," in other words, that "it is the result, not only of a venereal poison in the system, but also of the influence of mercury upon that poison." Mr. Menzies was himself of the latter way of thinking, and stated it to be his conviction, founded upon the experience of the Eye Infirmary of Guy's Hospital, that "mercury is the flame which kindles the latent spark of venereal disease in the eye." He next proceeded in the endeavour to establish certain diagnostic marks of distinction between syphilitic and other forms of iritis. These, he said, "generally consist in the distinct form which the lymph takes on; in the appearance and foxy or cinnamon colour of the zone around the cornea; and in the angular displacement of the pupil towards the root of the nose; together with nocturnal exacerbations of pain, and the appearance of secondary symptoms in other parts of the body. The local appearances are, however, a very imperfect guide to diagnosis, the constitutional symptoms being most to be depended on." "The nocturnal exacerbations of pain are invariably present, and if the action of syphilis and mercury can be traced in the patient's system, that the disease is syphilitic iritis will seldom be an incorrect diagnosis."

With regard to medical measures, Mr. Menzies vindicated a course of treatment of which that adopted in the case presented to night might be considered a fair type. He had no faith in turpentine for the cure of syphilitic iritis, whatever it might do in other forms of that disease; but under the tuition of his preceptor, Mr. Morgan, he felt unshaken confidence in large depletions and mercury, in the manner pursued in this case. The complication of retinitis, as evidenced by dilated pupil and palsied retina, rendered perhaps necessary a larger amount of depletion than might be required under other circumstances; but pretty extensive depletion was always useful, both by reducing inflammatory excitement *per se*, and in promoting the specific action of mercury upon the system.

Dr. Bossy could not agree in the opinion that mercury had any share necessarily in the production of syphilitic iritis.

Mr. Lawrence quoted a number of cases of that disease, in which mercury had been given in some quantity, for the cure of the primary sore in about one-third of the whole number; very little in about another third, and no mercury at all in the remaining third, and yet iritis supervened. Mr. Rose and Mr. Thomson had recorded, in the Medico-Chirurgical Transactions, the result of their trials to treat venereal disease without any mercury whatever: in some ef these iritis followed. There were other facts of the same tendency in the Edinburgh Medical and Chirurgical Journal, and in other records, shewing incontestibly that iritis may arise as a consequence of syphilis, although no mercurial action had prevailed in the system.

Mr. Iliff corroborated these views, by reference to the reports of cases preserved at Chatham, and the general records of military surgical practice.

Mr. Tweedie did not consider it proved that any distinctive characters appertained to syphilitic, which should entitle it to be considered different in nature from common iritis. In each case it was inflammation of the iris, whether of the muscular or fibrous structure (whichever it might be), or of the serous membrane covering it, he would hardly undertake to decide; and although the colour of the zone around the cornea was said to be different, it did not appear to be so invariably. The treatment, also, which was applicable to one, was equally adapted to the other complaint.

Mr. Carrington did not think syphilitic iritis was curable without mercury, at least he had never seen such an example; but other forms of iritis did not necessarily require that mineral.

Mr. Hilton adduced some interesting physiological observations, tending to establish a distinction between syphilitic and common iritis; but we were unable to follow the speaker with sufficient minuteness, and it would therefore be unjust to insert an imperfect statement of his views in this report.

The President disapproved of pushing depletion to so great an extent as had been prescribed by Mr. Menzies. In private practice he had known much mischief to follow; and he preferred relying upon mercury as his remedial agent.

A vote of thanks was passed to Mr. Menzies for his interesting communication.

The President now rose, and announced that this was the last meeting of the Physical Society for the present session. It was twenty-four years ago that he had attended on those benches as a pupil. Since he had been in practice he had been a constant attendant at the meetings; and he must acknowledge that he derived both pleasure and much instruction from the papers and discussions which he had heard within these walls. He congratulated the members upon the extremely auspicious session now brought to a close, and trusted to meet them again next October, once more to resume their labours with equal profit and good fellowship towards one another.

The cordial thanks of the Society were presented to Mr. Harrison, the Treasurer of the Hospital, for the gratuitous accommodation he affords in enabling the meetings to take place free of expense, and to which all respectable practitioners find ready entrance—to the Presidents of the Society, Dr. Bright, Dr. Babington, Dr. Barlow, Mr. Cooper, Mr. Hilton, and Mr. Greenwood, for their kindness in presiding—and to the Honorary Secretaries, Dr. Rees and Mr. Tweedie, for their diligent attention to the duties which devolve upon them.

Thanks were also voted to the Chairman of the evening, and the meeting adjourned till the first Saturday in October.

The diplomas, &c. of the Society, will be awarded at the annual adjudication of prizes to the pupils of Guy's Hospital, early in May.

This is the parent Medical Society of London, having been instituted in the year 1772, one year before the London Medical Society, now held in Bolt Court.

ON THE CORONER'S COURT.

To the Editor of the Medical Gazette.

Sir,

It is with real satisfaction, that after a perusal of Mr. Chatto's last letter, I feel called upon to state, that our difference of opinion as to the office of coroner appears so slight as hardly to justify further discussion; as, although the few remarks with which you are now troubled, may in some measure extend beyond those offered by Mr. Chatto, there will be found no radical difference in their tendency. I agree most perfectly with Mr. Chatto as to the inadequacy of the Coroner's Court as at present constituted, and more especially as to the scandalous system of picking up in the streets all sorts of men as jurors. It has been my lot, when serving the office, to preside over a jury, not more than three or four of whom could do more than substitute a X for his signature; nay more,

I have, as a witness, been examined before a coroner by a juror *so drunk* as not to know what I was saying to him, much less to understand it. The inquiry alluded to was on the 31st of March, 1828, and on the body of a child who died of marasmus, in the gaol here, to which at the time I was surgeon. Can a greater mockery of judicial investigation than this be required to satisfy the mind of man?

There is another subject connected with the coroner's inquest which ought to have some claim on public interest, as it involves considerable expenditure of public money — viz. the unnecessary inquiry in cases where death is manifestly the result of natural causes, or of mere accident. Is it necessary to harrow up the feelings of relatives already sufficiently grieved, by the public recapitulation of facts already but too well known; or to subject a body, under such circumstances, to mutilation (by which alone more can be elicited), where no suspicion of murder or self-destruction can by possibility be entertained? This is not an idle question, but one suggested to me by actual facts which have fallen under my own observation, and where there was no more necessity for inquiry than in a case of fever, cholera, or any other rapid and acute disease.

With your permission I shall now make a few remarks on the cases which appear to call for inquiry, and also the best mode, in my humble opinion, of conducting it when demanded.

1st. In regard to accidental death. Many of these cases are, no doubt, the effect of causes which no human ingenuity or precautionary measures could avert or counteract; whilst others arise either from very gross negligence on the part of individuals, or from still more flagrant causes.

2dly. As to sudden death. This may be the effect of disease, or it may be the consequence of violence, or of poison. Surely the same necessity does not exist in all of these cases. Yet we find, from a reference to the published reports of inquests, that verdicts of "Accidental death" and "Died by the visitation of God" infinitely surpass those of "Wilful murder" and "Manslaughter."

The cases of sudden death which justify inquiry, I conceive to be those only where suspicion exists as to the cause being the existence of an intention on the part of the deceased, or others, to destroy life; and in all such cases a medical, if not an anatomical, examination should be instituted. If wounds or other marks of violence exist, it then becomes a question whether they are self-inflicted or not. And even in the case of poisoning, it is of the utmost consequence not only to determine the fact, but also, by collateral evidence, to prove whether it be the act of the murderer or the suicide; and, in the latter case, whether it be the act of the responsible being or of the maniac.

In cases of accident, the object should be to ascertain whether negligence, imprudence and rashness, or unavoidable circumstances, have produced death; and in cases only where these questions are actually doubtful should any inquiry be permitted. In illustration of the first may be mentioned all accidents in coal-mines, steam-boats, coaches, &c. The same may be said of the second, with some additions, embracing persons run over by impetuous riding and driving; too great application of steam by sea or land, &c.; shooting at marks in improper places, and so forth.

This outline, imperfect as it is, will I hope be deemed sufficient at once to prove the legitimate subjects of the coroner's inquiry, and also to demonstate, by contra-distinction, the absurd though existing difference between what is and what ought to be.

In conclusion, I may state, that of late years (prior to the operation of the Municipal Reform Act) an attorney and a surgeon were associated in the office for this borough, which to me appeared a proper mode of bestowing the appointment, and likely to serve the ends of justice. This, however, is no longer the case. If the office of coroner be continued, it should, in my opinion, be thus divided. Although, at the same time, I must admit my conviction that it is a superfluous public expense; and in its stead, I would, with Mr. Chatto (imposing the duty of inquiry on the magistracy), suggest the propriety of appointing two medical men to examine into all suspicious cases, and to report thereon.—I have the honour to be, sir,

Your most obedient servant,

GEORGE FIFE, M.D.

22, Eldon Square,
Newcastle-upon-Tyne, April 22, 1839.

ON THE CORONERSHIP AND INQUESTS.

To the Editor of the Medical Gazette.

SIR,

So much has been said of late on the subject of coroners, that any further observations upon the subject may appear superfluous; and yet I am anxious to forward to you two or three cases of glaring mis-

management under the present system, because I believe there is a general impression abroad that some reformation is necessary, which impression will certainly augment with the increased exposure of the abuses which have so long existed.

I perfectly agree with you in thinking that the substitution of medical for legal coroners is the best remedy for the present evil, and therefore join with you in your opinion that Mr. Wakley's election to the coronership of Middlesex is likely to be beneficial both to the medical profession and the public in general; and I cannot but admire the candour you have shewn in giving such an opinion. Had I possessed a vote on the occasion, I should certainly have given it to Mr. Wakley, not because I believe him to be the best qualified medical man in the county for the office, as regards his knowledge of morbid anatomy and medical jurisprudence, which (I say it with due deference and respect to that gentleman) cannot, I should conceive, be very great, considering his numerous parliamentary and other avocations; but I should have voted for him as a precedent, and believing that from his medical and other acquirements he was likely to prove a far more efficient coroner for the county than any lawyer could possibly be. But to the cases, and they are briefly these: I of course mention no names, as I would not privately, much less publicly, say any thing to the injury of any member of the medical profession.

A gentleman was found on the road, near the town of ——, weltering in his blood. He was carried home. Two medical men were sent for. Several blows had been inflicted on the head, one of which had cut through the scalp; and his medical men stated that they ascertained the skull to be fractured at this point; they alternately bled him to lower his pulse, and gave him brandy and other stimulants to raise it. He never spoke from the time of his being found, though he shewed evident signs of sensibility. No symptoms of compression arose; he died within four or five hours of his being found. No post-mortem examination was made. A stick was found in the possession of ——, the knot of which so peculiarly fitted itself into the scalp-wound, that the jury and several other persons, amongst whom were the medical men, signed a declaration that it was their firm conviction that this stick had been the cause of death. On this and other corroborating evidence, two men were indicted for murder; the judge advised the jury not to find a bill; and two years after the murderer (neither of the parties first suspected) was discovered: he confessed his guilt, and was executed; but the murder had been committed with a perfectly smooth-headed bludgeon — in fact, with an instrument for killing cattle. Of what did this poor gentleman die? Of compression of the brain? There were no symptoms of this.—Of concussion? Reaction had so far taken place as to induce the medical men to bleed.—Of inflammation of the brain? No symptoms of inflammation of the brain were mentioned, and this could hardly have taken place in so short a time!

As regards the fact of this poor gentleman having been murdered, neither a post-mortem examination nor an investigation into the subject by a clever medical coroner would perhaps have forwarded the views of justice; but such evidence might have been elicited as would have proved hardly less interesting than important to the public.

A gentleman suffering from what he considered rheumatic pains, applied to an eminent medical man in London for advice, who prescribed for him the iodide of potassium in dose of 6 or 8 grains (I forget which.) The gentleman sent his prescription to his usual medical attendant, who, having made up the medicine, called upon his patient to administer it. The patient was walking about (apparently to all in his usual health): he was sent for; and, upon swallowing a dose of the medicine, given by the medical attendant himself, exclaimed, "Good God! you've poisoned me! This medicine is too strong!" A relation tasted what remained in the glass, and expressed her opinion that it was very strong. The medical attendant put the other draughts in his pocket, saying he would dilute them, and left the house. Half an hour or so afterwards the patient was so extremely ill that two medical men were sent for. Before they could arrive (probably an hour or an hour and half) he was dead. From what was elicited as to the nature of his symptoms and the appearance of his body after death, there was at least a strong probability of his having been poisoned. At the coroner's inquest the medical gentleman who had administered the medicine was examined by the coroner: he brought with him the remainder of the draughts (as he stated, not yet diluted). Not even these were subjected to chemical analysis! No post-mortem examination was made! The coroner called another medical gentleman, to whom he put these questions, and these only:—"Do you believe eight grains of iodide of potassium are sufficient to cause death?"—"Do you believe twice that quantity sufficient to

cause death?" The coroner refused to give this medical witness the fee for attendance; stating, that he could only give one fee, which was due to the other medical witness—namely, the gentleman who had administered the medicine! The verdict returned was—"Died by the visitation of God."

A young woman died with every symptom, as far as could be ascertained, of having swallowed a corrosive mineral poison. She had formed an attachment, which was not unlikely to have preyed deeply on her spirits. The remains of a packet of arsenic were found in her bedroom. Cholera was prevalent at this time. The coroner called a medical witness; the only question he asked of him was—"Were ——'s symptoms such as might have been caused by cholera?" No post-mortem examination was made, and a verdict was returned—"Died by the visitation of God."

I would crave your leave to make two more observations; the one is, that should the public be convinced of the propriety of selecting medical coroners, they will soon learn to take the trouble of selecting those who are best qualified. The other is, that there is one objection against medical coroners; namely, that they should not sit in those cases in which they have been professionally employed, which objection might be obviated by the employment of the coroner for a neighbouring district, in all such cases.

I must apologize for having taken up so much of your valuable space; but should my letter appear to you worthy of insertion, and should it tend in any way to rouse the attention of the medical profession and of the public to the necessity for electing more efficient coroners, it will gratify

Your very obedient servant,
A Constant Reader of the Gazette.

London, April 20, 1839.

SUPPLY OF SUBJECTS IN GLASGOW.

To the Editor of the Medical Gazette.

Sir,

I only yesterday observed, in your journal of the 6th, a leading article upon the inadequate supply of subjects, and the *clean* state (to use the whaleships' term) of the London dissecting-rooms. It occurred to me, that it would be interesting to you to know how we get on in this northern city, by the adoption of a plan precisely similar to that which you recommend.

We are not, as you may guess, much troubled with the visits of the inspector. Nevertheless, we get on exceedingly well, from having the countenance and support of the city magistracy. All the teachers requiring subjects—that is to say, those of anatomy and surgery, both private and in the University, amounting to eight in number—are associated with the magistrates and part of the city council, forming what is called the Anatomical Institution, acting under the legal advice of the city chamberlain. A meeting of this institution is held at the commencement of each session, and oftener, when required, and minutes of the proceedings are kept by the chamberlain. A purveyor is appointed, with a small salary, who has an office adjoining the Police Buildings, with a dead-room, and is provided with a hearse and proper servants.

In those of the parishes which have gone into the arrangement, when a person who has no relations dies in a lodging-house, or is found dead in the streets, or is dragged out of the river, the persons who have the custody of the body, on applying to the parish authorities for a coffin, are referred to the purveyor. He sends a coffin, and has the body removed to the dead-room, where it lies for two days, according to the act, in case of any one claiming it. If any friend wish to see it buried, it is then interred; if no one takes such an interest in it, it is sent to the dissecting-rooms in rotation. A regulation was at first made, that each teacher should receive three subjects for public demonstration, and should afterwards receive in proportion to the number of his dissecting pupils; but for the last three years the supply has been quite unlimited.

To defray the expense of the machinery, a price is paid by the teachers for each subject they receive. At first, this was three guineas; but the supply becoming greater, it is now only two for entire and one and a half for inspected bodies. This trifling charge has been found amply sufficient to meet all the expenses. Indeed, there is no doubt that the supply in this city is now the best in the united kingdom, with the exception, perhaps, of that in Dublin. Surely an arrangement of this kind could be gone into in London. Several purveyors might be appointed, and the result would certainly be satisfactory.

I am, sir,
Your obedient servant,
James Douglas,
Lecturer on Anatomy at the School in College Street, Glasgow.

Glasgow, 22d April, 1839.

SLOUGHING AND DISCHARGE OF ABOUT TWENTY-FIVE INCHES OF LARGE INTESTINE.

An example of this has been communicated to the Medical and Physical Society of Bombay, by Dr. P. Brown. It occurred in a trooper admitted into hospital, Nov. 30th 1834, with dysentry. The patient had almost constant calls to stool; the evacuations were scanty, very offensive, and passed with much straining; the abdomen was slightly tumid, with general tenderness on pressure, particularly on the left side; countenance anxious and palid; tongue slightly furred at the root and centre, with raw and reddish edges; stomach irritable; pulse soft and rather quick. These symptoms continued until the 20th Dec., when, while straining at stool, there came away a membranous tube about 25 inches in length, which on examination proved to be a portion of large intestine. This was of its natural calibre but its walls were much thickened; its three coats could be readily seperated.

After the discharge of this portion of intestine, the evacuations, though still dysenteric, were passed without straining, and often involuntarily; gradually, however, they became less frequent, and the power of retaining them returned. The nausea and retching ceased, but the least increase in diet always proved prejudicial. January 18th, the appetite having become very keen, chicken was allowed; much irritation resulted, and though the former diet, bread and milk, was restored, still the patient continued restless and uneasy, but without any alarming symptoms till about an hour before he died, on the 20th, when he complained of excruciating pain in the abdomen.

On inspection after death, the small intestines were found so knotted together that they could not be traced: the large intestine was much shortened, and not a vestige of the sigmoid flexure existed. The rectum was much increased in capacity.—*American Journal of Medical Sciences.*

ENORMOUS DILATATION OF THE STOMACH

A remarkable example of this has been communicated to the Medical Society of Toulouse by M. Serian. It occurred in a man thirty six years of age, a great eater, and who selected for his food the most indigestible and drank the strongest liquors. He died of influenza. On examination after death, the stomcah was found enormously distended, and occupying the whole abdomen; its form natural. The diameter of its great curvature was three feet two inches. It contained ten pounds of sanguineous fluid, its parietes were three lines thick.—*Ibid.*

MR. ESTLIN'S LETTERS ON VACCINATION.

The readers of the Gazette are aware that Mr. Estlin, of Bristol, has communicated the results of his interesting and important investigations connected with vaccination, through the medium of this journal. We last week published our correspondent's "Fourth Letter"; but by mistake this was preceded by a communication intended to have been private, and which was headed, "Mr. Estlin's Third Letter," whereas his *third* letter was published in February. The mistake is attributable to the temporary illness of the gentleman who supervises the press, and to his deputy not having perceived that the letter in question was intended to be private.

It was our intention to have referred to the circumstance this week, even had we not received the following note from Mr. Estlin.

To the Editor of the Medical Gazette.

Sir,

On receiving, this morning, the last number of the Medical Gazette, I was concerned to find that a private note I addressed to you on the 16th instant, written solely to bespeak space for the insertion of my "Fourth Letter on the New Vaccine Virus," has been printed in the Gazette, and headed "Mr. Estlin's Third Letter."

It is probable I may have omitted to write "private" upon that note; but the nature of its contents, and the hasty manner in which it was obviously written, seemed to render such an explanation unnecessary.

Many, I have no doubt, will perceive that the note could not be intended for the perusal of your readers, and will acquit me of the bad taste which writing such a one for publication would betray. To others, the subsequent letter will show that whatever private opinion I might hold respecting the National Vaccine Establishment, I have been anxious to avoid any disrespectful expression in what was meant for the public eye.

My "Third Letter" on the New Virus was published in your number for February 9th, 1839. If the present error be not corrected, confusion will arise from any future reference to that letter.

May I request that in the next number of the Gazette you will, as far as it is practicable, rectify the mistake which has occurred.—I am, sir,

Your obedient servant,

J. B. Estlin.

Bristol, April 29th, 1839.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, April 23d, 1839.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week	Same time last year.
	£ s. d.		£ s. d.		s. d.		
Aloes, Barbadoes, D.P. c	12 0 0	to	40 0 0				
Hepatic (dry) BD..... c	5 0 0		14 0 0	B P. lb	0 2	37,291	33,161
Cape, BD. c	2 10 0		——	F. lb	0 8		
Anise, Oil of, German, D.P.... lb	0 9 6		0 9 6	F. lb	1 4	——	——
E. I. ..... lb	0 6 6		——	E. I.	1 4	711	254
Asafœtida, B.D. c	2 10 0		5 0 0	c	6 0	15	35
Balsam, Canada, D.P. ..... lb	0 1 3		0 1 4	lb	0 1	1,619	1,752
Copaiba, BD. ..... lb	0 4 0		——	c	4 0	196	42
Peru, BD. ..... lb	0 4 0		——	lb	1 0	400	637
Benzoin (best) BD..... c	25 0 0		50 0 0	c	4 0	48	41
Camphor, unrefined, BD..... c	10 10 0		——	c	1 0	172	203
Cantharides, D.P. ..... lb	0 5 6		0 5 8	lb	1 0	6,970	6,885
Caraway, Oil of, D.P. ..... lb	0 8 0		0 8 6	lb	4 0	190	——
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0		——	lb	0 1	48	3,670
Cassia, Oil of, BD..... lb	0 7 6		——	lb	1 4	1,142	1,508
Castor Oil, East India, BD ..... lb	0 0 6		0 0 11	c	1 3	2,164	2,110
West I. (bottle) D.P. 1½ lb	——		——	——			
Castoreum, American ..... lb	0 17 0		0 18 0	lb	0 6	431	422
D.P. Hudson's Bay ..... lb	0 18 0		1 0 0				
Russian..... lb	none						
Catechu, BD. Pale c	1 6 0		——	c	1 0	11,183	3,667
Dark	3 0 0		——				
Cinchona Bark, Pale (Crown)..... lb	0 2 0		0 3 6	lb	0 1	22,997	28,224
BD. Red ..... lb	0 2 0		0 4 0				
Yellow ..... lb	0 3 6		0 3 8				
Colocynth, Turkey ..... lb	0 2 6		0 4 0	lb	0 2	4,336	1,806
D.P. Mogadore ..... lb	0 1 0		——	lb	0 2	6,112	9,611
Calumba Root, BD. c	0 12 0		1 15 0	lb	0 6	18,378	11,828
Cubebs, BD. c	2 14 0		——	c	4 0	25	44
Gamboge, BD. c	5 0 0		15 0 0	c	4 0	271	223
Gentian, D.P. c	1 6 0		1 8 0	c	6 2	2	13
Guaiacum, D.P..... lb	0 1 0		0 1 8				
Gum Arabic, Turkey, fine, D.P... c	11 0 0		12 0 0				
Do. seconds, D.P. .. c	8 0 0		——	c	6 0	3,053	2,227
Barbary, brown, BD. c	2 2 0		——				
Do. white, D.P..... c	4 10 0		——				
E. I. fine yellow, BD. c	2 14 0		3 0 0	c	6 0	2,584	1,416
Do. dark brown, B.D. c	1 15 0		2 5 0	c	6 0	8,167	3,194
—— Senegal garblings, D.P. c	3 6 0		——	c	6 0	22	148
—— Tragacanth, D.P. c	8 0 0		12 0 0	lb	0 1	1,977	4,225
Iceland Moss (Lichen), D.P. .... lb	0 0 2½		0 0 3	lb	1 0	3,437	7,354
Ipecacuanha Root, B.D. ..... lb	0 1 9		0 2 0	lb	0 6	9,831	10,304
Jalap, BD. ..... lb	0 2 8		0 2 9	lb	0 3	4,070	2,713
Manna, flaky, BD. ..... lb	0 4 6		——	oz	6 0	777	556
Sicilian, BD. ..... lb	0 1 7		——	c	6 0	110	60
Musk, China, BD. ..... oz	1 0 0		1 8 0	lb	2 6	——	272
Myrrh, East India, BD. c	5 0 0		14 0 0	lb	1 0	13,939	10,107
Turkey, BD..... c	2 0 0		11 10 0	lb	4 0	354	114
Nux Vomica, BD..... lb	0 8 0		0 9 0	lb	0 1	87,328	79,504
Opium, Turkey, BD. ..... lb	0 15 0		——	lb	1 0	10,913	11,904
Peppermint, Oil of, F. BD..... lb	0 17 6		——				
Quicksilver, BD. ..... lb	0 3 10		——				
Rhubarb, East India, BD..... lb	0 2 6		0 4 0				
Dutch, trimmed, D.P. lb	0 3 6		0 5 0	F. lb	1 0	1,421	2,475
Russian, BD. ..... lb	0 8 3		——				
Saffron, French, BD. ..... lb	0 18 0		——	lb	1 0	1,225	1,306
Spanish ..... lb	0 19 0		——				
Sarsaparilla, Honduras, BD..... lb	0 1 0		0 1 9	lb	0 6	40,390	32,301
Lisbon, BD. ..... lb	0 2 0		——				
Scammony, Smyrna, D.P..... lb	——		——	lb	2 6	3,610	2,810
Aleppo ..... lb	0 18 0		1 0 0	E.I. lb	0 6	43,294	23,396
Senna, East India, BD. ..... lb	0 0 3		0 0 4				
Alexandria, D.P..... lb	0 1 9		0 1 10	Other sorts	0 6	29,406	24,021
Smyrna, D.P. ..... lb	0 1 0		0 1 3				
Tripoli, D.P. ..... lb	0 1 0		0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

MR. S. COOPER AND MR. LISTON.

To the Editor of the Medical Gazette.

SIR,

You will oblige me by inserting the following letter in the next number of your journal. The matter to which it relates will afford a pretty good illustration, in one party or another, of the truth of Terence's observation, "Facile credimus quod volumus."—I am, sir,

Your obedient servant,
SAMUEL COOPER.

To Robert Liston, Esq.

Sir,—Some months ago, in University College Hospital, you cut into the bladder of a man named Fagan; and a piece of elastic gum catheter, incrusted with calculous matter, was extracted. On this being shewn to the patient, who was yet on the operating table, he exclaimed, "Mr. Cooper did it;" and you immediately inquired of me whether I had done it. My reply was, that the patient could not possibly allude to me, for I had never attended him in my life; and he has since explained that the Mr. C. to whom he referred keeps an open shop in a very distant part of the town from my residence.

A report of this case, accompanied by your clinical observations, was inserted in the Lancet of the 20th instant, headed, "Mr. S. Cooper's Catheterism," and charging me in the text with having been the occasion of the accident.

Mr. Borthwick, who drew up the report from the hospital-book, declares that he delivered it into your hands for insertion in the above-mentioned base publication; and that it then contained no allusion to any Mr. Cooper; consequently the false and slanderous insinuation must have been added to the document after it had gone out of his hands into yours.

As I disdain to say any thing behind a man's back which I would not say before his face, the opportunity is now taken of infroming you that I have made the above particulars extensively known in the profession; and I sincerely hope that you will be able to satisfy the medical world of your not being implicated in this underhand and mean transaction. The pleasure that will be experienced by me, on your being able to convince the profession of your innocence in this affair, I assure you, sir, will not be diminished by the consideration that, in exculpating yourself, you must leave your friend, the well-known calumnious editor, deep in the mire, exposed so far as his head may be out of the mud, to the contempt of all honourable minds.—I remain, sir,

Yours obediently,
SAMUEL COOPER.

Woburn Place, Russell Square,
April 29, 1839.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 2.

Thomas James, Aberystwith.—Alfred Harper, Darlington.—William Bullock Jackson, West Bromwich.—James Griffith Hall, Swansea, Wales.—George Dry, Oxford.—William Carruthers, Holbeach, Lincolnshire.—George James Potter, Attleborough, Norfolk.—Thomas Taylor.—John Cook, Clydach, near Swansea.—Robert Shipman, Grantham, Lincolnshire.—William Fortescue, London.—William Scowcroft, Wigan.—William M'Gill, London.—John Smith, London.—John Warner, London.—Frederick Bentham Curtis.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *April* 30, 1839.

Abscess	1	Inflammation	9
Age and Debility	26	Brain	3
Apoplexy	3	Lungs and Pleura	2
Asthma	8	Liver, diseased	1
Childbirth	3	Measles	6
Consumption	24	Paralysis	1
Convulsions	12	Rheumatism	1
Dentition	5	Small-pox	1
Dropsy	9	Sore Throat and Quinsey	1
Dropsy in the Brain	3	Thrush	1
Fever	7	Unknown Causes	25
Fever, Scarlet	4		
Fever, Typhus	1	Casualties	3
Heart, diseased	2		
Hooping Cough	7		

Decrease of Burials, as compared with the preceding week . . . 91

METEOROLOGICAL JOURNAL.

April.	THERMOMETER.	BAROMETER.
Thursday . 18	from 36 to 53	29·44 to 29·52
Friday . . 19	44 55	29 55 29·84
Saturday . 20	36 51	29·94 30·08
Sunday . . 21	37 55	30·13 30·16
Monday . . 22	29·5 61	30·15 30·12
Tuesday . . 23	42 5 54	29·93 29·89
Wednesday 24	36 52	29 93 30·01
Thursday . 25	from 28 to 51	29·99 to Stat.
Friday. . . 26	32 55	30·02 30·11
Saturday . 27	42 59·5	30 11 30·13
Sunday . . 28	34 61	30·19 30·23
Monday . . 29	30 62	30·18 30·12
Tuesday . 30	36 65	30·11 30·03
May.		
Wednesday 1	45 66	29 97 29·94

Winds, N.W. and S.E.

Except the 24th, 25th, and 28th ult., and two following days, generally cloudy; rain fell on the 18th, 20th, 21st, and 23d. Two Parasalene between 2 and 3 o'clock on the morning of the 25th.

Rain fallen, ·85 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 11, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Of Urinary Gravel and Calculi.

Before entering into the pathological and chemical history of these affections, it seems necessary first to determine their composition and arrangement. The deposits from the urine, although consisting even of the same ingredients, assume a variety of forms, which probably may be conveniently referred, as it were, to three genera: these are the amorphous or pulverulent, the crystallized, and, lastly, the aggregation of these two into large solid concretions or calculi.

I. *Amorphous sediments.*—These sediments mostly consist of salts soluble in the urine, at the temperature when voided from the bladder; and hence they do not shew themselves, or become sensible, till the urine has been passed some time, and cooled, when they are precipitated as a fine powder, devoid of all crystalline appearance. They also vary in colour nearly as much as in form, and assume all shades, from perfectly white, like chalk, to deep brown, yellow, red, pink, or even purple. Nor is their composition less varied than their sensible and mechanical properties. Thus they are found to contain almost every principle, natural or morbid, existing in the urine, either itself capable of assuming the solid form, or of entering into insoluble combination with any of the other principles. Those which are soluble at the temperature of the urine when passed, but which separate from it when it has cooled, for the most part consist of the lithic acid combined either with ammonia, soda, or lime; or an intermixture of these lithates combined with the purpurates, and tinged more or less deeply with the colouring matter of the urine. These constitute the lateritious and pink sediments. Another form consists principally of the earthy phosphates; that is, the phosphate of lime with the ammonio-phosphate of magnesia. These when alone are for the most part white. Of course, the latter, unless held in solution by some acid—as the hydrochloric, carbonic, or phosphoric—will be passed in mechanical suspension, only giving a degree of turbidity or opalescence to the urine. Frequently the lithates and phosphates are mixed together; but the lithates for the most part prevail; and it is to the little disposition which these have to crystallize that the pulverulent or amorphous form of these sediments is to be attributed. I here present you specimens of the amorphous kind.

II. *Crystallized sediments, usually named gravel.*—These sediments are for the most part voided with the urine in crystalline grains, and of an angular figure. What we have been considering above are generally deposited after the urine has been voided and arrived at the temperature of the surrounding medium; but the class under consideration are voided, in mechanical suspension, with the urine, and generally subside at the bottom of the utensil almost immediately the urine has been passed and is at rest. Sometimes, though more rarely, an additional crop of crystals deposits, as the urine at rest cools. Sometimes these crystals are wholly deposited after the urine has been voided, more passing with it, and then they appear abun-

dantly upon the surface of the urine, and upon the sides of the vessel in which the urine has been allowed to stand for some time. These crystals, according to Prout, consist—1st, of nearly pure lithic acid, with a little of the colouring matter of the urine; 2dly, of the phosphate of magnesia and ammonia; 3dly, oxalate of lime. In these two specimens, I present you instances of the two first varieties. With respect to the first, Berzelius maintains that they consist of the superlithate of ammonia; and generally ammonia is recognizable on heating them with a little caustic potass. But Dr. Prout thinks this arises from a minute intermixture of the common lithate or purpurate of ammonia with which they are mostly, though slightly, contaminated.

The lithic* acid crystals—by far the most frequent variety—are generally of a red colour, more or less deep. I here shew you a specimen, and you observe various shades, from deep to pale red. The triple or ammonio-magnesian phosphate is white, and the oxalate of lime is of a dark green or blackish colour. Here you see crystals of the triple phosphate, and in this bottle you see the oxalate of lime; and for the opportunity of shewing you such a variety, as well as several others which I shall have occasion to shew you, I should be extremely remiss did I not acknowledge my obligation to Mr. Langstaff, who has most kindly permitted me to select whatever I thought proper from his most extensive and highly valuable museum. You, no doubt, naturally presume that these varieties of crystallized sediments are never voided together, as incompatible with each other, in the same urine; but the lithic acid and triple phosphate occasionally occur in the amorphous form, either mixed with each other or deposited after the urine has stood for some time. With respect to the mode of examining the chemical composition of these sediments, we shall consider this question under the head of *urinary calculi*. As calculi are found to consist of all these different principles, either simply and individually, or of two or more, or even all mixed together, it appears best calculated, to avoid repetition, to defer the mode of chemically examining the composition till considering the calculi themselves.

III. *Solid concretions, or urinary calculi.*—The different principles which we have been just considering, with others yet to be considered, when existing abundantly in the urine, and deposited by this fluid, aggregate into masses of greater or less magnitude, and then constitute what have been named *urinary calculi*, or *stones*. From the number and qualities of the ingredients of which they are liable to be composed, it may naturally be presumed that they would present a great variety of appearances and of chemical composition.

Various classifications were at one time or other given of calculi: thus we had *renal*, *vesical*, &c., divisions which, even if well founded, would be of no use in a pathological or therapeutical point of view. The chemical composition affords the only useful and valuable grounds of arrangement; I shall therefore now proceed to lay before you an enumeration of calculi, arranged upon this principle. The species of calculi at present known are as follows:—

1. Lithic acid calculus.
2. Lithate of ammonia calculus.
3. Oxalate of lime calculus.
4. Carbonate of lime calculus.
5. Phosphate of lime or bone-earth calculus.
6. Ammonio-phosphate of magnesia, or triple calculus.
7. The mixed phosphates, or fusible calculus, composed of a mixture of the phosphate of lime and the ammonio-phosphate of magnesia, or triple calculus.
8. Alternating calculus.
9. The mixed calculus.
10. Cystic oxide calculus.
11. Xanthic (lithic) oxide calculus.
12. Fibrinous calculus.
13. Prostatic calculus.

From the above it will be seen that the principal calculi, and those most frequently occurring, consist of the lithic, oxalic, and phosphoric acids, united to the bases ammonia, lime, and magnesia; that there is but one calculus of the above consisting of a single principle, the lithic. We shall now proceed to shew the characters by which each may be distinguished; and as the same method of analysis is applicable to the amorphous, as well as to the crystallized sediments found in the urine, it will be unnecessary further to particularize the methods of investigation. The characters by which calculi are determined may be, as in other instances, divided into sensible, mechanical, and chemical, although, perhaps, it will not always be necessary to adhere strictly to this order. However, before entering upon the analysis of the individual calculi, it may not be amiss to take a cursory view of their general properties; and first with regard to their sensible properties:—

Generally speaking, they have little or no smell unless heated; though when sawn through, they are said to exhale a urinous odour. They vary in colour often

* Often named *uric* acid.

according to their chemical composition, sometimes as they may happen to be tinged with animal matters—for instance, blood. Lithic calculi vary in colour, from a red to a mahogany or deep brown. Sometimes they present a fawn colour—instances of which I here present you. The phosphates are mostly white, or of a greyish colour, and friable. When white and crystalline, they consist of the triple phosphate; when friable, or softish, and pulverulent like chalk, they will be found to consist of the mixed phosphates or fusible calculus. Calculi which are of a very dark brown or black, and present a tuberculated appearance like a mulberry, mostly consist of oxalate of lime. But it should also be recollected, that lithic calculi sometimes assume a finely tuberculated appearance. You may here see a beautiful delineation of this variety in fig. 1, plate vi. of Dr. Marcet's work. There is also a calculus of tuberculated lithic acid; and if you compare the reality with the delineation, you will see how well it is represented.

In size, also, they vary as much. Sometimes they are small, not larger than a pea; while Sir James Earle describes an enormous calculus, extracted after death from the bladder of a patient who had been unsuccessfully cut for stone during life. This calculus is described as weighing three pounds four ounces; it was of an oval shape, and the periphery on the longer axis measured sixteen inches*. Calculi of such great size have been found to be mostly of the fusible kind. Here you see a variety of various sizes.

In density, too, they are very various: their specific gravity varies from 1·2 to 1·9, or 2·0, water taken as 1·0.

When sawn through, their structure is found to be various. Internally they are laminated or stratified. Sometimes they present internally an amorphous or earthy character; at other times they are very distinctly laminated, and often very hard and compact. Internally, also, they present nuclei; and the nucleus mostly consists of some of the species of calculi, and more especially lithic acid. In this fig. 2, plate 6, of Marcet's work, and indeed in this plate generally, you have very good representations of calculi with their internal nuclei. But in some instances the nuclei consist of foreign substances, as a pin, piece of cloth, fragment of a probe, or of a sound, or even a musket ball†; and in these cases the calculous deposit is found to consist of the earthy phosphates, and more particularly of the mixed or fusible.

In some instances they are found to consist of concentric laminæ or layers, and these in one mass present all the varieties of calculous deposits. Thus, often the mulberry is covered with a white pulverulent crust of the earthy or mixed phosphates; and, indeed, present every variety in alternate layers: hence the name "alternating calculi."

The prostate gland is subject to an imbedding of very small calculi; they are generally of a yellowish brown colour, and rounded in their shape. In this plate ix. of Dr. Marcet's work, you have a good representation of them and of the gland. They are found mostly to consist of phosphate of lime. The presence of these bodies is, for the most part, connected with various changes of structure in the gland. We shall now proceed to determine the chemical composition of the individual calculi.

1. *The lithic acid calculus*, of which you here see several specimens, is of a reddish brown or fawn-colour, approaching, as it is said, that of mahogany. The surface is, for the most part, smooth; but sometimes, as in this specimen, finely tuberculated. Internally, it consists of concentric laminæ, well illustrated in this specimen. This fracture appears either imperfectly crystalline, amorphous, and sometimes earthy. In the latter case it is usually impure, containing a mixture of other substances. It is the most common of all calculi.

Chemical characters.—Heated before the blow-pipe it blackens, and for this purpose a forceps with platinum spoon-points are the best adapted. A small fragment about the size of a pin's head is placed, as you see, in one bowl, and confined by the other retained over it by means of the slide. On heating it a little it first blackens, emitting a peculiar animal odour, as you perceive, and ultimately dissipates, leaving a minute quantity of a whitish ash, and which, as you perceive, reddens moistened turmeric. Another character is, its complete solubility in the caustic potass; and from this solution it is precipitated as a white granular powder, as you here perceive, by the addition of a little acetic acid. Lastly, if on a small fragment, placed in a watch-glass we pour a drop or two of nitric acid, and apply but a very gentle heat, the lithic acid, as you see, dissolves with effervescence. On allowing the solution to evaporate to dryness, the residue assumes a pink or carmine colour, which, by the addition, of a drop or two of ammonia, is instantly changed to a beautiful purple.

2. *Lithate of ammonia calculus* is mostly of a slate or clay colour, the surface is sometimes smooth, sometimes tuberculated. Internally it consists of concentric

* Philosophical Transactions, 1809.
† Marcet on Calculous Disorders, p. 58.

lamina, the fracture very fine and earthy, resembling compact limestone. It is much more soluble than the lithic acid. This calculus is rather uncommon, generally of small size, and mostly confined to children under puberty. Here is a specimen, but with the particulars I am not acquainted. It often occurs mixed with the oxalate of lime, forming a variety of mixed calculus.

Chemical characters.—This, as might naturally be expected, presents many characters in common with the last described calculus, lithic acid. Heated before the blow-pipe it crackles or decrepitates strongly. It is soluble in a much less quantity of hot water than the lithic acid; and if heated with caustic potass, the ammonia evolved is sensible by its pungent odour; and by the effect upon moistened turmeric paper, or reddened litmus paper, and held in the escaping gas—as you may here observe, Lastly, it may be further distinguished from the lithic acid, the only principle with which it is likely to be confounded, by the ease with which it may be dissolved by digestion in a solution of the carbonates of the finer alkalies (potass, for instance), which the pure lithic acid is not. The theory of this is very obvious: the lithic acid will not, by the exertion of single electric affinity, displace the carbonic, but rather gives place to the latter, as you have already seen. But when we make the case one of double elective affinity, an exchange of principles takes place; the carbonic acid of the potass passes to the ammonia, forming carbonate of ammonia, and the lithic acid unites to the potass, forming lithate of potass—two salts sufficiently soluble.

3. *Oxalate of lime*, usually named *mulberry calculus*, from its external appearance. It is generally of a very dark brown or black colour. It has a rough tuberculated appearance, very much resembling the mulberry fruit, whence its name. It is very hard and compact, and when sawn through presents an imperfectly laminated structure. It seldom surpasses the medium size, and is by no means uncommon. Here you see several specimens, which bear out the description given of the sensible characters. In this bottle you see a large collection of a variety of this calculus, and for which I am indebted to Mr. Langstaff. As you may observe, they are small in size, of a darkish colour, and very smooth, and resembling the hemp-seed; whence they have been named *hemp-seed* calculi. This variety mostly contains lithate of ammonia, with which principle the oxalate of lime is found mixed, and in every proportion; and the characters in a great measure depend upon the predominance of either principle.

Chemical characters. — Exposed to the blow pipe flame, this calculus first blackens, swells out, and expands into a kind of white efflorescence. This depends upon the decomposition of the oxalic acid, which is converted into carbonic; and if the heat be continued, is ultimately driven off, and the white ash which remains behind is alkaline, and reddens moistened turmeric paper. This ash is the caustic or quick-lime, deprived of its oxalic acid. These characters would be sufficient, generally speaking, to distinguish this substance, but when we wish to see more perfectly the constituents, we may proceed as follows:—A portion of the oxalate reduced to very fine powder, is to be boiled for a considerable time in a solution of carbonate of potass. By long digestion, an exchange of principles is effected, attended with the formation of carbonate of lime, which is insoluble, and oxalate of potass, which is dissolved in the water. The oxalic acid now in solution may be readily identified by the application of chloride of calcium, sulphate of copper, and nitrate of silver. This precipitate from this last is extremely characteristic, from the property which the oxalate of silver has of detonating feebly when dried and heated. These properties we shall now proceed to exemplify.

4. *Carbonate of lime calculus.*—This species of calculus is very uncommon. Dr. Prout states that he "has seen some small calculi composed almost entirely of this salt. They were perfectly white, and very friable *." Mr. Smith also described others which very much resembled mulberry calculi †. However, they are not very frequent. Mr. Brande states that in several hundred calculi which he examined he never met with it from the human bladder. He further states, that he observed very small and perfectly spherical concretions, composed of carbonate of lime and animal matter, voided in a case in which they apparently come from the prostate gland. In the Journal of the Royal Institution I have related the particulars of a case in which small concretions of carbonate of lime were passed by the individual.

Chemical characters,—Before the blow-pipe they are rendered caustic by the dissipation of their acid. They readily dissolve with effervescence, on adding almost any acid. When the fragment is very small, I generally introduce it into a small tube containing a stratum of acetic or hydrochloric acid confined by mercury. The tube thus arranged—as you see in this instance—is inverted in a small cup of mer-

* On the Urinary Organs, &c. p. 93.
† Med.-Chirurg. Transact. vol. xi. p. 14.

cury, and the fragment introduced rises to the surface of the mercury—as you see—and is immediately acted on by the acid. The carbonic acid disengaged is confined by the mercury, and of course can easily be examined.

5. *Phosphate of lime, or bone-earth calculus.*—Phosphate of lime forms very frequently a constituent of calculi; still urinary calculi, consisting wholly of phosphate of lime, are probably very rare. Concretions consisting entirely of phosphate of lime have been satisfactorily proved by Dr. Wollaston, who gives the following summary of their sensible and mechanical properties:—"Its surface is generally of a pale brown, and so smooth as to appear polished. When sawn through, it is found very regularly laminated, and the laminæ in general adhere so slightly to each other, as to separate with ease into concentric crusts. In a specimen with which I was favoured by Dr. Baillie, each lamina is striated in a direction perpendicular to the surface, as from an assemblage of fibres*." In this specimen you see all these characters well exemplified. Externally it is of a pale brown, and the surface has a smooth appearance, somewhat like porcelain, to which it has been not inaptly compared. Internally, as you observe, it is laminated, and the laminæ striated in a direction perpendicular to the surface. In plate viii. fig. 7, of Dr. Marcet's work †, we have a very well characterized fragment of this species of calculus, which I here present to you.

Chemical characters.—Before the blowpipe this calculus first becomes black, in consequence of the charring of the animal matter; but as the heat is continued, it becomes perfectly white again, and resists any further action of the blowpipe; unless, indeed, a very intense heat be excited (and such as few persons can raise), when it may at last be melted. This susceptibility of fusion distinguishes the phosphate of lime in calculi from that in bones, the latter containing more lime in its composition than the phosphate of calculi. The ash which remains is neither acidulous nor alkaline—characters which will distinguish the phosphate from the carbonate and oxalate, which leave an alkaline ash. Further, it is soluble in the hydrochloric and nitric acids, from which it is precipitable again in the form of a white powder unaltered, by neutralizing the acid by means of an alkali. To verify more perfectly the constitution, we may proceed as follows:—

Boil the calculus, finely pulverized, in a solution of carbonate of potass. By continuing the digestion for a sufficient length of time, an interchange of principles takes place, with the formation of insoluble carbonate of lime, and phosphate of potass, which remains in solution, and may now be recognised by the tests already mentioned in a former part of these lectures, and which it would now be unnecessary to repeat. The insoluble part may be digested in very weak acetic acid, which will expel the carbonic acid, and acetate of lime will be in solution, and may be determined by the agency of oxalic acid and other well-known properties. There are several other methods of identifying phosphoric acid; but it is quite unnecessary to consider them, the blowpipe analysis being perfectly sufficient for all practical purposes.

* Philosoph. Transact. 1797.
† See also Prout, figs. 15, 16, and 17.

LECTURES

ON THE

VENEREAL DISEASE,

Delivered at the Aldersgate School of Medicine, March 1839,

By F. C. Skey, F.R.S. &c.

Sketch of the history—Three primary forms of venereal disease—Disease often of spontaneous origin—Forms of sore dependent on constitutional peculiarities—Plurality of poisons—Various kinds of sore probably modifications of each other—The Hunterian chancre—The claims of Mr. Hunter as an authority in the venereal disease of the present day—Necessity of a clear definition of the terms "induration," "circumscribed thickening," &c.—Rareness of the indurated sore.

In the ensuing lectures on the Venereal Disease, I shall endeavour to place before you a general view of this involved subject, simplifying it as much as possible, and introducing matters of collateral interest only in as far as they tend to elucidate the subject under consideration.

There is a long history appended to it, into which, however, I shall not enter unnecessarily. The general belief prevails, that the venereal disease was unknown in Europe before the close of the fifteenth century. In the year 1494, it is reported by the Spanish historians of that date to have been introduced into the peninsula from St. Domingo, and other islands of the West Indies, by the Spanish sailors who attended Christopher Columbus and his brother Bartholomew, in their several expeditions of discovery; that it was communicated to the French troops at Naples by the Spaniards, and was by them conveyed to France, and named the "morbus

Gallicus," previous to which it was well known in Spain under the name of " las bubas" (whence possibly our name bubo.) The glory attendant on the successful issue of the French expedition, for a time reconciled the people to the opprobrious name of their new acquisition, though they ere long became captious and sensitive to the indignity; they named it, and not unreasonably, " le mal de Naples." As it extended through the various countries of Europe and Western Asia, it took invariably the name of the country through which it travelled. The English called it the French disease, as did the Germans; the Poles knew it under the designation of the disease of the Germans; the Russians, the disease of the Poles; the Persians and Turks, as the disease of the Franks. " At length," says Astruc, " the French physicians became ashamed of the infamy which was grown so common, and thought themselves engaged to throw off the scandal which had been unjustly thrown on their country, and by common consent it was named the venereal disease."

The venereal disease, naturally acquired, may exhibit itself in three distinct primary forms :—

1st. As a discharge of purulent matter from the urethra.

2d. As an ulcer. And—

3d. As an induration of the subcutaneous or submuco-cutaneous cellular membrane, succeeded by ulceration.

Of these, the two former are of most frequent occurrence.

Besides these, the genital organs are the seat of sundry varieties of disease strongly resembling the venereal, from which it is often most difficult to distinguish them.

Before I proceed to the immediate subject of the disease itself, I wish to introduce some points of interest for your attentive consideration.

It is a common opinion that the form of the affection developed by sexual intercourse, corresponds with that of the party by, or from whom, it has been produced; and also, that this disease is the product of a specific poison. There is, as it appears to me, abundant evidence to the contrary; to prove which I need not, for my own satisfaction, travel out of the record of my own recollection. One of the most credible authors on this subject, an army surgeon, states, " I have been present at the public examination of 200 women of the town, and most frequented by soldiers, and not one case of disease was found; nevertheless, the hospitals continued to have the usual number of venereal cases. Subsequently 100 were examined, and only two were diseased; and the author most justly remarks, " It is impossible that these two women could have infected the whole garrison"—an opinion that I presume will admit of no altercation.

Now, either the disease in these women existed beyond the surface exposed—a supposition at variance with every day's experience—or the above facts are false; or the diseases under which these men were labouring, were spontaneous, or at least self-generated; and if self-generated, I do not see why I am compelled to place an unqualified faith in the history given by Astruc and others, of the introduction of the venereal disease in the fifteenth century, because if these maladies be susceptible of an origin independent of specific contagion, it is clear that they may have been similarly produced at any period in history.

The term self-generated (I will not say spontaneous, for that is still more objectionable) expresses something short of the idea I wish to convey. I mean that, in a certain condition of constitution, the elements of a poison lie dormant, which may be developed by the action of a simple irritant, and that that irritant may exist in the form of any apparently simple, but unhealthy exciting cause in the female, such as leucorrhœa, menstrual fluid, or indeed any impure secretion of a puriform character; and may also be developed by mechanical irritation.

I do not say that the venereal disease is invariably propagated by these means, because there is plenty of experience to the contrary; but looking, first, to the frequency of disease, whether ulcerative or catarrhal, obtained by intercourse with women, without ground for suspicion of disease; secondly, to the liability of each individual to the formation of the same description of sore (one man, says Mr. Evans, will have a succession of attacks of gonorrhœa, another of simple venereal sores, which, in a third, as invariably assume a phagedænic character); and thirdly, to the existence of a form of ulcer (the true syphilitic), which is characterized by induration, often even without abrasion of the surface; looking to these and various other minor grounds for this belief, I cannot myself entertain a doubt but that primary venereal disease of each and every kind may be developed after sexual intercourse, without the presence of venereal disease in the female of any kind. One of the worst cases of gonorrhœa I ever prescribed for occurred in the person of a youth who seduced a young lady residing in the same house. There was not up to that event the slightest ground of suspicion against her, but, on the contrary, every confirming circumstance of her previous purity; and, as regards the youth

himself, it was notorious in his family circle that he had "never sinned."

I may be told that his disease *resembled* gonorrhœa. I assert that it was gonorrhœa; and if profuse discharge, first of pus and then of blood, great ardor urinæ, severe chordee, irritation of the bladder, constitutional fever, the product of the local cause, a persistence in the above symptoms during a period of two months, and a gleety discharge occupying two months longer, if such be not a sufficient test of gonorrhœa, it were perfectly absurd to pretend to any power of discrimination; and who can doubt but that this disease was communicable? You will also observe, *that the gentleman alone had the disease, from which the other party was entirely free!* And let me ask, in what respect, however minute, does this disease fall short of gonorrhœa obtained by promiscuous intercourse, and under which circumstances, indeed, I am persuaded it is frequently acquired, where no disease exists.

I had, some months since, under my care, a gentleman who had an excoriation, for which, at the suggestion of his medical attendant, he employed mercury in considerable quantity. The excoriation healed entirely, and the mercury was discontinued. Ten days afterwards, during which interval he had no intercourse with woman, "fair or foul," a phagedænic, and rapidly-extending sore, broke out in the neighbourhood of the former excoriation, but not upon the original surface. Now this sore (which I saw from its birth, or at least too early to possess the title to a name,) when consequent on contagion, appears between three and five days after it. Upwards of a month had elapsed from the date of the former connexion, and ten days from the healing of the excoriation. Could this sore, then, be the product of specific poison obtained by contagion? Undoubtedly not. This gentleman had the aspect and the pulse of a remarkably sensitive man; his pulse rose or fell ten or fifteen beats, according to the exciting or tranquillizing tendency of the conversation. His appetite was readily disturbed by mental emotion of any kind; his bowels naturally and habitually regular, while his nervous sytem remained undisturbed, became irregular in a marked degree on any deviation from his daily habits; his face was pallid or flushed half a dozen times during the quarter of an hour of each medical visit. This gentleman had taken mercury to salivation. Can you doubt that his constitution generated its own sore? And yet this identical sore, if not arrested by treatment, would probably lead to secondary disease of the very worst, the most destructive, and the most intractable kind.

There is one obvious and easy mode of disposing of the question, by those who dissent from this view of it; and that is, to question the veracity of the parties involved in the inquiry—to erect in our own minds an arbitrary standard of truth, and to start with the resolution that no testimony shall shake it. If the statement of a guileless patient, applying, under circumstances of great pain and greater apprehension, for our professional aid, do not correspond with these views, we must drive him to confession by any little devices our ingenuity may suggest for its attainment; and in this we do but follow in the path of other honourable men whose professional sagacity, as it has always appeared to me, is singularly prostituted, in the attempt, by cross-examination, to obtain a confirmation of their party view, and to pervert in a large number of instances the current of truth and justice.

There are few, very few men, whether educated or not, who can stand the test of a minute and searching cross-examination in the presence of many observers. This system may doubtless often tend to expose falsehood, but I have a very strong impression that it does not very frequently promote the cause of truth.

With regard to the malady under consideration, it is a singular fact that disease should exhibit itself in the form of a single sore only. Supposing a woman to be the subject of a primary sore, one would suppose that the secretion of that sore would be diffused pretty generally over the surrounding muco-cutaneous surface of the vagina. Why, then, should this specific virus exhibit its influence by contaminating one spot only, and not various spots? for although we occasionally meet with what are called a *crop of sores*, they are rarely primary, but are the result of contamination from the original affection. It is certainly no very satisfactory solution to be answered that the virus remained in contact with that surface and not with others, because we should suppose each part of the exposed surface subject to the same exciting cause, or by ablution equally placed beyond the pale of its influence. Why, then, should the noxious matter exhibit its baneful consequences on one only? That the presence of a sore does not engage the entire attention of the parts ordinarily the seat of disease, may be inferred from the liability to contamination from a primary sore by the neighbouring parts, as in the matter of a common sore, or the frequent formation of a common venerola, during the pro-

gress of gonorhœa. This fact appears to me rather to favour the view of the self-generation of sores, although, perhaps, not to any considerable extent, inasmuch as that a large proportion of sores occur on those surfaces of the male organ on which contagious matter would be more likely to be retained after connexion.

The difficulty, however, still remains unexplained why we have not generally a plurality of sores, supposing them to be obtained by the application of contagious matter during connexion. I have often asked myself the value of all the information that is in being, tending to prove the fallacy of these views. How often during the career of any eminent practitioner has he had opportunities of determining the communication of the same poison from one party to another? Evidence of disease having been communicated is one point, but the identity of that disease in the two parties is another.

And this leads me to another question, perhaps more of pathological than of surgical interest; I mean the extensive question of the plurality of poisons.

Many authorities favour the opinion that there exists not one poison of a specific venereal kind, but several; that each is attended by its own distinct characters and symptoms; and that this holds true not only as regards the primary affection, whatever form it may assume, but also of its constitutional or secondary forms.

The opinion is founded on the belief that a certain uniform series of secondary symptoms is consequent on each distinct form of primary disease. It is strengthened by the dissimilar forms of treatment required for each affection; some being supposed curable by mercury alone, while others yield to simple remedies, in which mercury is not only unnecessary but injurious; one form of poison, again, invariably attacking one structure only, this structure being insusceptible of contamination from others.

The great authority of the present day is Sir R. Carmichael, who has systematized the subject, and divided these morbid poisons into four, which he determines, not by their primary character, but by their remote influence on the constitution in the production of eruptive and other diseases.

Those who entertain the opinion that the whole train of venereal symptoms, both primary and secondary, are the product of the same poison, refer the variety in appearance to the different forms of organization of the affected parts, and to the modifying influence of health, temperament, and climate. In support of this doctrine, we have sundry modern authors of repute, and for the most part the military surgeons, who have contributed so largely and so valuably to the records of surgery in reference to these maladies.

The advocates of this doctrine dissent from the opinion that a particular form of eruption or sore throat, follows any given character of primary sore, asserting that in one case one form of eruption, whether scaly or pustular—that in another, whether pustular, tubercular, or even two or three intermingled—shall characterize the introduction of the same poison into the constitution.

The admitted existence of a venereal disease prior to the end of the 15th century, may be applied as a conclusive argument in favour of the doctrine of a plurality of poisons, by those who rely on the evidence adduced in favour of the introduction at that date of a morbus gallicus; but it must be acknowledged, in relation to the latter disease, that its characters and general symptoms at the present day, supposing the two to be identical, correspond but imperfectly with those detailed by the writers of the 16th century—viz. the date succeeding to that of its supposed introduction; and the question may with great reason be asked, whether this latter disease be now extant? Among other authorities quoted by Astruc in proof of the recent introduction of the venereal disease into Europe, is that of Roderic Diaz, a physician of Seville, in 1550, who says—"It took its origin from the island of Hispaniola, as has been found by long and certain experience; for when that island was discovered by C. Columbus, the disease being infectious was easily communicated to the soldiers, and soon spread throughout the army; and as at the same time that Columbus the admiral arrived, the Catholic king, to whom he gave an account of his voyage, resided at Barcelona, immediately the whole city began to be seized with the same disease, which spread itself quite over it." Indeed, the numerous accounts given of it by Spanish, French, and Italian authors, at the date of its importation, characterize it in terms which convey in this day the idea of a disease more offensive and more dreadful than the plague itself. A German author of 1496, three years subsequent to its introduction, says, "it was a disease sent down from the citadel of the immortal gods on the French—a most horrid and terrible prodigy, unheard of, hated, and unknown—a disease repugnant to nature." Again, another German author (1532) speaks of it as "a destructive disease. The poor people that laboured under it were thrown out from human society, and deserted by the physicians. They were obliged to live in the fields and woods."

Gabriel Fallopius says, "there was

found the most precious gold, and plenty of it was brought from thence, together with abundance of pearls, but there was also a thorn joined to the rose, and aloes mixed with the honey; for Columbus brought back his vessels laden with the French disease! There, in Hispaniola, the disease is mild, and like the itch among us; but transported, it has become so fierce and so unmerciful as to infect and corrupt the head, eyes, nose, palate, skin, flesh, bones, ligaments, and at last to corrupt the whole bowels."

For myself, I must plead ignorance of this "terrible prodigy." I cannot see the likeness to any form of this disease now extant, and surely it is not very unreasonable to suppose that, with the unhappy victims of its former virulence, it has long since slumbered with the dead.

I doubt not you will concur with me in the belief that this question is surrounded with difficulties of no ordinary kind. We have, on the one hand, the numerous contributions of the authors of the 16th century, who positively declare in the absolute novelty of the disease; all of whom concur in opinion, on the subject of its introduction by Columbus, in the year 1493. We have, moreover, the authority of Carmichael and Abernethy, and other authors of repute, in favour of the opinion that particular forms of eruption are consequent on certain varieties of primary disease—an opinion with which, to a great extent, I fully concur; while, on the other hand, we have the declaration of Messrs. Guthrie, Hennen, Cooper, and Bacot, that "no peculiar secondary symptoms are seen to follow from peculiar primary sores," (inferring, I presume, that one and the same poison exists in every form,) and the expressed declaration in favour of the identity of poison in every form of primary venereal affection, by Mr. Travers, Mr. Wallace, and Mr. Colles.

I find primary disease, not however invariably, followed by particular forms or groups of secondary affections, but by no means with the uniformity of order described by Sir R. Carmichael; to whom, however, I think we owe a great debt of gratitude. I cannot reconcile it to my mind to consider a form of primary sore which is under no circumstances the precursor and cause of secondary eruption, identical with another sore, which, unless means be taken to check it, almost necessary leads to sore throat, eruptions on the skin, pains in the bones, and extensive disorganization of structure; or that a poison causing deposition, as its most striking characteristic, can be identical with another, marked by ulceration merely.

But I shall not dwell on this subject longer, as I do not see that it can lead to any practical results; for whatever be the views taken by the advocates of each opinion, it is probable that the treatment of the diseases in question will be governed only by the symptoms immediately developed by them.

It is highly probably that the venereal poisons, if not identical, are at least not very dissimilar, and that they may be classed under the relationship of modifications of the same poison, owing their distinctions in a greater degree to the constitution generating or communicating them, than to any primary or original property they may possess, in the person of the individual affected; for I am strongly of opinion, that if the germ of what would be deemed a well-marked disease, were communicated throughout a circle (suppose of twenty persons, each of whom should be alone subject to the infection of the person first contaminated), we should have no difficulty in tracing, within a brief period of time, the extension of venereal affections of each and every description; and that the poison of this one sore, transmitted through a variety of constitutions, would develop itself in one individual under one character, and in another under a totally dissimilar one.

Again, if the variety of sores be the product of totally different poisons, and if they be not greatly modified by the constitution of the person affected, is it not singular that we rarely, perhaps never, see two or more descriptions of sore; congregating in the same individual more especially when we consider the liabilities to contagion, from every form of venereal poison, to which the lower class of prostitutes are exposed; and would it not appear from this that the constitution of the individual exerts a most important influence in determining the form that ultimately exhibits itself?

Mr. Hunter's volume on the Venereal Disease was published in the year 1786; and considering the confused and ill-digested mass of knowledge that prevailed on that subject, up to the period of its publication, we cannot be surprised at the overwhelming influence it acquired, and the profound deference paid to its authority by the surgical world. Its merits are his own; its defects are based on the obscurities of the subject itself, which it is evident no single mind could entirely illumine.

You will think it strange, if, acknowledging as I do, the exalted merit of this production of Mr. Hunter, I express my honest belief that it has been the means of perpetuating more error than any book of authority ever published on a medical

subject, but to which the author's high reputation has more contributed than the author himself. Mr. Hunter's book gives general and enlarged views on the history and development of the venereal disease, and of its consequences, but he has passed entirely unnoticed the great variety of primary, as well as secondary diseases, which are incidental to it. Perhaps this is not surprising, when we recollect the important advances which surgical as well as physiological science have made since the publication of his work. However, we have all heard of the Hunterian chancre, the name of which has been in the mouth of every surgical teacher for the last quarter of a century, both British and continental,—a marvellous illustration of the influence of authority.

Probably, then, I shall surprise you if I state most unequivocally, that Mr. Hunter never described a chancre, if by the term described is understood the delineating all the important characters by which it is marked, although in the elaborate work of M. Rayer on Cutaneous Diseases the author has actually delineated one, under the title of the Hunterian chancre. Authors and lecturers delight in referring to the admirable definition of a chancre by Mr. H., which they say will neither admit the addition nor the subtraction of a word. When I say Mr. Hunter has not described a chancre, I do not wish you to suppose that he has passed over the subject in total silence; but I mean to assert, and that deliberately, that the very meagre and superficial account which he has given of chancre, is totally inapplicable to the variety of sores we daily meet with, and as regards diagnosis, almost useless in practice.

There is on the subject either the most wilful perversion or the most extraordinary self-delusion prevailing in the profession, that any learned body could well be the subjects of. A certain description has been given, embracing one single characteristic of chancre, and one only, out of many; the entire picture of which has been completed by the fancy of his followers. Moreover, the cursory and brief outline in which Mr. Hunter has sketched the disease conveys the idea that he was familiar with no other form of sore with which to confound it. It is rather adverted to, than described, in words to this precise effect—an ulcer with a base of circumscribed hardness and prominent edges. Now, if you ask a surgeon to describe the "true Hunterian," he will say, "an ulcer with a hard base," to which is often added, "having thick white matter adhering to it, like a slough, which cannot be washed away; the addition being forcibly and unwarrantably purloined from the description of the venereal ulcer of the tonsil by the same eminent author. There is no allusion to its form —whether flat, excavated, or prominent— to its varying degree of hardness in different localities, nor to its duration. Now it is this same induration of the base, this circumscribed thickening, forming, as it does, the prominent character of the description, and in the mouth of every practitioner, that I want to see and understand. In the first place, what is meant by circumscribed thickening? In order to explain it I must observe that all forms of ulcer that progress slowly exhibit the effects of a greater or less degree of deposition of lymph around their circumference, giving a degree of firmness and of form to the ulcer proportionate to their torpidity of action. This applies not only to venereal, but, in a more striking degree, to almost every other variety of sore. Contrast a rapidly-ulcerating or phagedænic sore with any other form that has been long under treatment. I do not say that all chronic sores are hard, but that all hard sores are chronic. This hardness is solid, as the term would denote, and would be ill expressed either by the term "swelling," or "tumefaction," or puffiness.

There can be no doubt of the existence of "hardness," when present. It is palpable to the touch, and almost evident to the eye; and when really present no one will hesitate for a moment in acknowledging it. There may be a difference of opinion, however, when it is not.

Now, whenever induration is a character of venereal, or indeed of any other form of sore, the general ulcerative action is peculiarly slow: I say the "general ulcerative" action, because any sore may, under circumstances of peculiar excitement, assume a new disposition, and ulcerate with great rapidity.

The consequence of this slowly-advancing action is, that such sores extend by ulceration on the surface of the induration merely; they are generally flat, and rarely hollowed or cup-shaped. To imagine an induration excavated by active ulceration into a sore, would be a glaring error in pathology, for we cannot suppose that nature would establish two actions so diametrically opposed at one and the same time. I do not deny that a cup-shaped sore may be surrounded by tumefaction, for such condition is a most common consequence of ulcerative action, but that it is never surrounded by absolute induration— the circumscribed thickening of Mr. Hunter's description.

As a general rule we may infer, that whenever ulceration is coupled with thickness or hardness, the latter precedes in the relation of a proximate cause, the ulceration being the effect; when coupled with treatment of venereal sores, excepting the sore accompanied by the circumscribed

tumefaction merely, the ulcer precedes, of which the tumefaction is the effect, or at least the sequence.

But to what, you may ask, does all this tend. It tends to this, that the chancre of the present day is not the form of disease described by Mr. Hunter in the year 1786.

Examine for yourselves. Form your own opinions on an unprejudiced examination of a variety of cases.

During the last three years of the life of my lamented friend Mr. Earle, I had under my charge his three venereal wards in St. Bartholomew's Hospital, and I am confident that induration was not present in a twentieth part of the many hundred cases I treated during that period; I mean the induration which, to retain Mr. Hunter's own words, being "very circumscribed, does not diffuse itself gradually and imperceptibly into the surrounding parts, but terminates rather abruptly."

But of more than a hundred cases I have examined during the last three months, of venereal sores, *three only exhibited induration.* If the description of the peculiar thickening were not occasionally seen, we might almost doubt the terms of the definition, but it is seen, and known, and cannot be mistaken by the most superficial observer. Either, then, Mr. Hunter failed in his observation, or he failed in his description, or finally, the sore which bears his name has almost ceased to exist. One of these three positions is inevitable. No one has apparently felt this difficulty more than the annotator of the late edition of Mr. Hunter's work on the Venereal Disease, between whom and the author, if I am not greatly mistaken, there appear some remarkable discrepancies of opinion evidently expressed under the half concealed desire to reconcile the differences that really exist between them. The fact I believe to be, that the annotator is too close an observer, to be implicitly and entirely led, or rather misled, by Mr. Hunter; and as far as it could be effected, he has succeeded in blending two forms of sores, which are in character evidently very dissimilar. He says, "the author's (Mr. H.) description applies to a large majority of cases of primary venereal sores." Did this description of Mr. Hunter's apply at the date of his publication to a *majority* of primary venereal sores only, and not to the whole? If so, is it not passing strange that Mr. Hunter himself should not have said so? Was this the only form of sore that flourished at the date of Mr. H.'s observation?

The annotator continues:—"Two consequences follow the application of the venereal virus—induration and ulceration, and these seem to be distinct and independent, since, though they generally exist in conjunction, they are sometimes found separate, one or the other of them being in some cases wanting." After asserting the more uniform constancy of the induration than the ulceration, (a position I strenuously deny) the annotator observes, "the thickening precedes the ulceration, the first effect of venereal contamination, being the production of this peculiar change in the structure of the parts. The second effect, to produce ulceration of the indurated portion. The primary character of venereal infection is essentially induration, passing afterwards into ulceration." Again, "in the earliest stage of the existence of a chancre this sequence is least discernible, there being frequently at that period superficial and incipient ulceration, with very little apparent thickening." Now Mr. Hunter says nothing of frequently existing ulceration preceding the induration. He says, the first appearance of the sore on the prepuce is, in some cases, excoriated, and afterwards ulcerated; in others, a small pimple occurs or abscess appears, as on the glans, which forms an ulcer, a thickening of the part comes on," &c. I think I may venture to state to you that the indurated sore *does not commence as a pustule at all*, or if it do that it holds no relation to the local form of disease when fully developed. I agree with the annotator, and not with the author: the former says, and says truly, the thickening in general precedes the ulceration; but this observation will only apply to the rare form of disease described by Mr. Hunter. What is the crisis of the pustule? does its career terminate in resolution? does it die a natural death in order to give a temporary independence to the induration? Is the induration to the pustule what the pupa is to the larva of insects? Will the annotator of Mr. Hunter's work on the Venereal Disease, highly competent as he has proved himself to that task, will he undertake to assert that he has ever seen circumscribed induration succeed to a pustule?

However, the question is, is the circumscribed thickening described by Mr. Hunter an usual attendant on venereal sores, or is it not? I believe it is not; and if you traverse the foul wards attached to every hospital in this metropolis, you will not find the Hunterian circumscribed induration present in the proportion of one case in every 20 primary venereal sores. This form of the disease is the most rare of all forms. Mr. Evans, whose excellent work on the diseases of the genital organs I strongly recommend to your study and perusal, has given the most impartial and simple account of the origin, progress, and

induration of Mr. Hunter. He states that the common primary venereal sore is, in a very large ratio, the most common of all venereal ulcers. He says nothing of induration; he speaks of thickening in its latter stage—a condition which may be common to many sores, and does really characterize a form of sore which he has called the venerola indurata, but this is not the Hunterian sore. Sir R. Carmichael is silent on the subject, as indeed is very original writer who is untrammelled by Mr. Hunter.

Observe, however, finally, that I do not contend for the error of Mr. Hunter: I contend merely for this, that the prominent character of the single form of sore which he has described is not the character of venereal sores at the present day.

This is not a question to he determined by authority. It is a simple question of fact, to be determined only by personal inquiry and observation, and to these I commend you.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces of Portugal and Spain.

(As delivered in his Lectures at Sydenham College School of Medicine.)

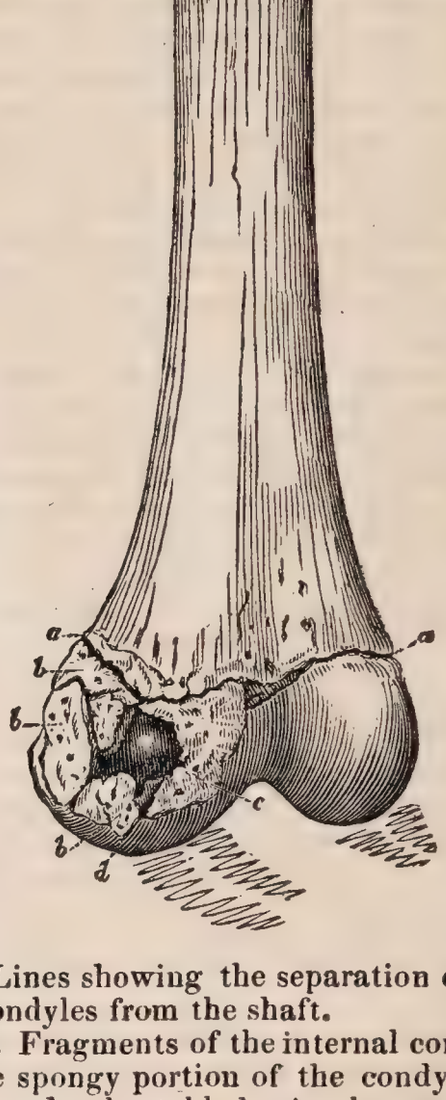
[Continued from p. 204.]

III.—*On Complicated Injuries of the Extremities.*

Another kind of complication not mentioned in the last lecture, and almost peculiar to gun-shot wounds, is the lodgement of a foreign body in bones. A musket-ball, for example, is very frequently embedded in the heads or extremities of bones. Here are many very fine specimens of this kind of injury. In these may be seen musket-balls lodged in the lower extremity of the femur—in the head of the tibia, and of the humerus. There is another, with the ball embedded, as it were, in callus, between a fractured radius and ulna. Here is a portion of a ball lodged in the ilium, loose in a shell of bone produced by absorption; another very beautiful example of fracture in the middle third of the femur, with a divided portion of ball fixed between the fragments.

You have the opportunity, by examining these, of satisfying yourselves that not only must they act as a source of inflammation by their presence, but that thus driven into the cancellated structure they split or fissure the harder shell forming the articulating surface, producing a new source of mischief. Fig. 1 affords a good example of this: the femur of a Spanish soldier, whose thigh I amputated in one of the Spanish hospitals.

Fig 1.



a, a. Lines showing the separation of the condyles from the shaft.
b, b, b. Fragments of the internal condyle.
c. The spongy portion of the condyle exposed; the table having been carried away.
d. The ball firmly lodged in the condyle.

Some doubt exists as to the best mode of dealing with these injuries. To leave the ball in is to sacrifice the limb nineteen times out of twenty, certainly when the joint implicated is the knee. To remove it will often require a troublesome and painful operation within the capsular ligament—as, for instance, to remove the ball in this preparation of a knee-joint, shewing the rapid and disastrous consequences of such an injury (see figs. 2 and 3.) This specimen presents features of very peculiar interest. In the first instance a ligamentous fibre, crossing obliquely the slit in the fibrous and capsular ligament, so closed the

Fig. 2.

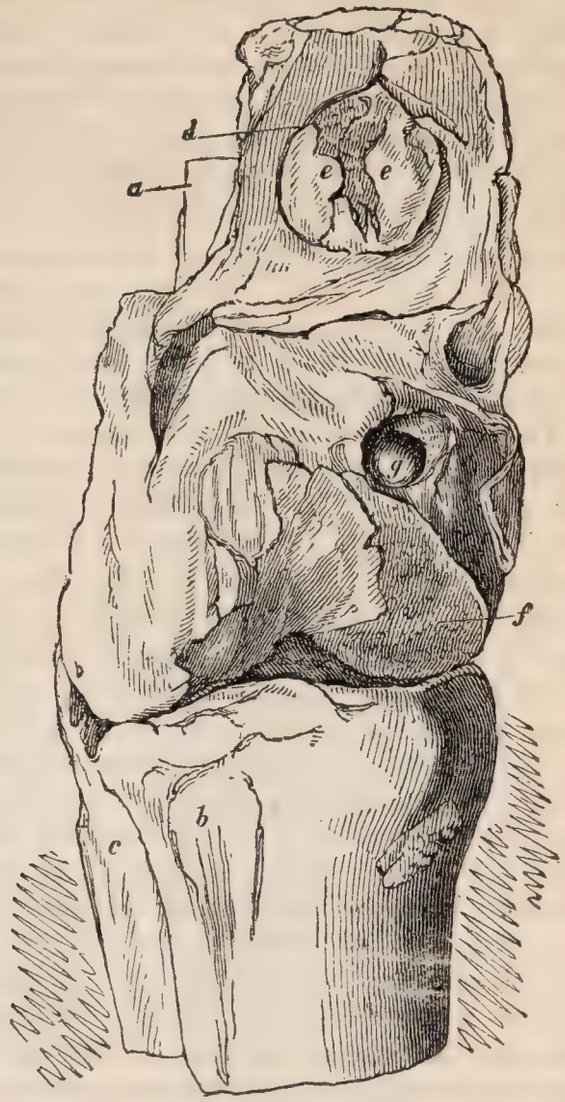


This view shows the elliptical incision made by the ball, and crossed by a ligamentous fibre.

opening into the joint, as to lead to the erroneous diagnosis that the ball had not penetrated, confirmed by the patient's report that the wound was caused by a ball which fell afterwards at his feet.

At the internal side, about the centre, and an eighth of an inch to the side of the patella, may be seen an elliptical opening, showing the point of entrance of the ball through the ligamentous structure, and, obliquely traversing it, a ligamentous fibre. On throwing back the patella the ball is discovered partially buried in the substance of the bone, immediately above the articulating surface of the internal condyle. The inner surface of the patella is carious; patches only of the articulating surface are left. The articulating surfaces of the femur and tibia are corroded in the same manner, except that on the surfaces of the inner condyle and corresponding portion of tibia there is not a shred remaining. The ligaments between the two bones are also partially destroyed. The ball is firmly embedded, and quite immoveable.

Fig. 3.



a, *a*. The femur.—*b*. Tibia.—*c*. Fibula.—*d*. Patella thrown back.—*e*, *e*, *e*. Cartilaginous structure left in patella and surface of femur.—*f*. Condyle entirely stripped of cartilage.—*g*. The ball embedded in the bone immediately above the articulating surface.

The chief features of the case may be be given in a very few words. Pain and swelling of the joint set in from the first day, and were quickly accompanied by a high irritative fever, the formation of extensive abscesses, copious and fœtid discharge, which ended in death on the twenty-seventh day, having in that time, as you see, produced entire disorganization of the knee-joint, the almost complete absorption of the cartilages, and caries of the bones.

The whole of the leg, from the ankle upwards, was infiltrated with unhealthy pus. An abscess of the thigh was found implicating the whole of the limb, from the knee to beyond the trochanter major, and communicating freely both anteriorly and posteriorly with the knee-joint. The femur was separated from its muscular attachment, and lay along the course of the abscess, not de-

prived of its periosteal covering, which, however, was in a putrescent state, and easily separated from the bone. The joint was filled with extremely fœtid matter, of a dark grumous colour, mixed with putrescent clots of blood, which probably had been effused from some branches of the profunda, observed at the upper part of the abscess. Let this case, then, impress on your minds the vast extent of mischief which an irritating body in a joint is capable of producing in a short period.

There is, however, one method by which a limb may often be saved, though not the articulation; and that is, by removing the head of the bone. I must, however, commence by saying that I consider this totally inapplicable to the knee-joint, and an operation I should never perform. It has been done with fatal result in some, and with a very doubtful kind of success in one or two others. I have not, however, the same objection to excision of the head of the humerus, or a similar operation at the elbow. The articulation for which such an operation is peculiarly calculated is the shoulder; and gun-shot wounds, such as I am now describing—such as you see in these preparations—are those best adapted for this operation, which I shall shortly have an opportunity of demonstrating to you.

Fractures from gun-shot do not only differ from those produced by other causes—in their brittle comminution, of the distinctive marks of which you have some very perfect examples here—but in the long fissuring obliquely upwards and downwards. This almost invariably takes place, and requires that you should estimate for it in amputation, and make allowance for the injury it inflicts in your diagnosis.

One of the best specimens I have seen I now show you: it is the femur of a gallant young officer whose leg I was obliged to amputate very high up in the thigh, on account of this extraordinary fissuring. The ball passed completely through, making a hole above the cancellated texture, and splintering it upward and downward in five fissures: one you see more than six inches in length. I concluded from my examination that considerable fissuring had taken place, and made proportionate allowance in beginning my first incision. You see how closely my judgment in the matter carried me; for the saw was applied just half an inch above the highest point of fissure, though nearly six above the passage of the ball through the bone. I amputated within five hours of the period at which he received the injury, and he recovered very rapidly.

There is still something more in these fractures than is to be observed in compound fractures from machinery, carriage wheels, falls, &c. The jar, or shock, is greater, and seems to communicate a sharper and more extensive inflammatory action on all the surrounding parts, and especially to the periosteum. Hence a more rapid and extensive suppuration. Here are eight parallel cases of gun-shot fractured femur, and fifty more of the different bones of the extremities. Examine them carefully, and you will see in all, that the action of the periosteum, of the absorbent and secreting vessels, is far extended, and rarely if ever confined to the mere site of fracture. This is not common in the fractures of civil life. And this inference is equally borne out by the notes of the cases. It is rare that a gun-shot fracture takes place in any of the bones of the extremities, without very extensive inflammatory and suppurative action—more than a mere fractured bone gives rise to in other circumstances, and out of proportion to the amount of the reparative process.

If you look again at these preparations, your first impression must be the perfect similarity of the means adopted to repair the mischief. In all there is a detaching of the sharp edges and ends by absorption of the bone behind, and the throwing out of callus in the immediate vicinity. In this one appearance, every where evident, I read a refutation of Haller and Dathleef's conclusion, after many experiments, that the callus was formed by a gelatinous juice exuding from the extremities of the broken bone. Look at these deadened and ivory extremities, evidently deprived of all vitality; see the callus every where abounding from the living bone, but no where from them, and you will feel convinced, as I do, that however callus may be secreted it assuredly is not by means of the broken extremities. I have no doubt callus is formed by aid of all the surrounding soft parts, but of the medullary membrane and periosteum chiefly, which throw out lymph from their torn and injured surfaces, into which vessels are shot for the purpose of organizing the structure, and

ultimately of secreting earthy matter—so forming, by degrees, first callus, then bone.

And in these preparations you may also read a refutation of the principle laid down, that for the formation of callus it is necessary the broken ends should be in contact. Here are two specimens, remarkable not only for their beauty but exact similarity. Twins could present no closer resemblance of feature than these do, first in their fracture, and next in their reparative processes. In describing one observe how accurately I give the description of the other (see figs. 4 and 5.) Here,

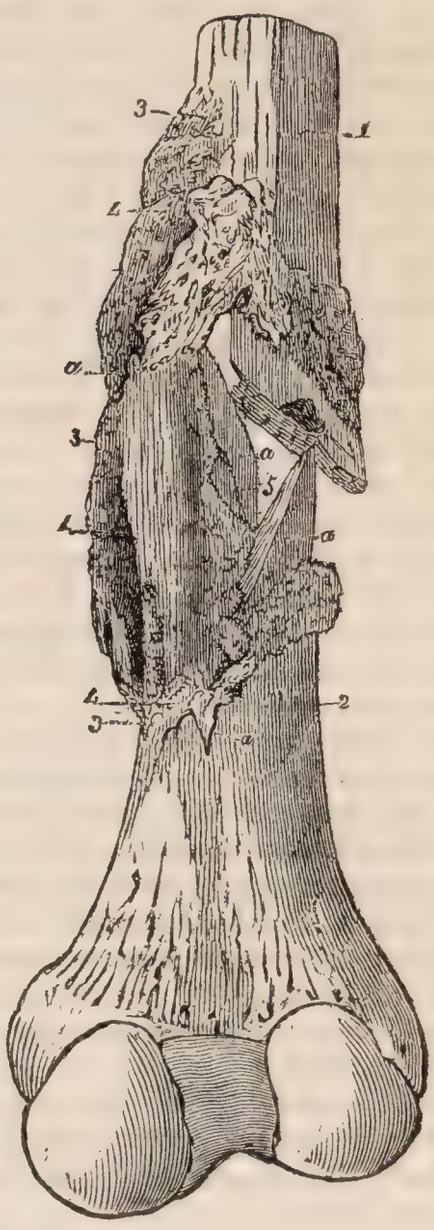
Fig. 4.



1. Superior shaft.
2. Inferior shaft.
3, 4, 5. The fractured portions. The connexion by callus of the fragments 3 and 4 is seen, each forming a kind of bridge, arched in the centre and united at the ends. In this aspect the fragment 5 distinctly shews not only the dead portion about to be thrown off, but the remaining healthy bone which was secreting callus.

a, a, a. The different points of bone nature was endeavouring to throw off.

Fig. 5.



1. Superior shaft.
2. Inferior do.
3, 4, 5. The fractured portions. The connexion by callus of the fragments 3 and 4 is seen, with the superior and inferior shafts, forming a kind of double bridge. In this aspect the portion of the fifth fragment seen is dead white bone, which was being thrown off.

a, a, a, a. The different points of bone nature had endeavoured to throw off.

it may be seen, the fracture is complicated, and the reparative process not less elaborate and perfect. The two shafts touch but at a point, and in both

the contact is with dead bone; probably in life they did not touch at all. Three large, long, and irregularly-shaped fragments are all curiously wrought together, and to each shaft, but rather in the shape of rough branches flung across a broken bridge. Every where, from shafts and fragments, sharp ends and edges are separating, and absorption strikes the line of separation. The formation of callus may next be observed immediately behind: it seems to have gone hand-in-hand with the absorbent process, and with equal activity. Thus the shafts are united, although they do not touch, connected rather by the fragments forming a bridge, firmly bound by callus to each shaft at the farther extremities: this bridge being formed by three irregular pieces of from four to six inches in length. Two of the longest flung boldly across from shaft to shaft, slightly convex and curved; the third and shorter fragment seems to have fallen in, and so at its upper extremity lies under the upper shaft, and the arch of the rude bridge. The whole of that end, however, being nearly thrown off and deprived of vitality by the absorption behind.

Could the process have gone, on it seems impossible that any solid union could have been effected, and yet quite certain that union would have been the result, exceedingly delusive and fragile in its nature, capable probably in time, of bearing the body's weight carefully placed upon it, but certain to give way under any irregular pressure, or by any fall or shock.

This one shows you the process of reparation up to the seventy-sixth day; the other parallel case gives the process up to the 136th.

It is necessary now to compare the two. It seems very evident, from the consideration of these preparations, that the first efforts of the system are vigorous and rapid in proportion; for in the first (which I have described,) during fifty-three days already are all the points of bone distinctly circumvallated and partially detached. Already are the shafts and fragments arranged in such order as to allow of consolidation more or less perfect. In the second, what has been done in eighty-three days more? A greater quantity of callus has been thrown out, and the edges and points in some instances are entirely detached, in others nearly so; but observing the work of fifty-three days, and then turning to the effect produced by eighty-three additional, it becomes evident how much more slowly the united actions of absorption and consolidation have proceeded. There is some little difference also to be observed in the character as well as the quantity of callus in the latter, showing the longest period; it is more rounded, partaking more of the peculiar and porous character of lava, which it much resembles.

Having called your attention pointedly to the abundant formation of callus uniting fragments to the shaft in contact but at a point, and thus indeed, not only uniting themselves to the shafts, but connecting the two, let me beg you to observe again this fissured and broken femur, which I have already shown you; there is a square piece attached now by gum; you see at once that it has been completely detached, that it is whiter than the rest, or in other words, that its vitality is gone; yet within five hours from the shot striking the bone I amputated the limb.

These two facts are placed in juxtaposition, the better to enforce two points of practice:—

First, since fragments, particularly long and irregular ones, generally in contact at one or more points, will not only unite in a firm and perfect manner, but serve as a useful connecting link to the shafts, since moreover, such fragments have extensive adhesions to muscular fibres, and if lying deep can only be extracted with much dissection and some violence, this operation, under such circumstances, ought never to be attempted.

Secondly, that a completely detached and short fragment should be removed at once if it can be done without much dissection or violence, as it is likely, in a few hours, to become dead, and lie in the wound a foreign body.

Other conclusions I have also come to, on a careful consideration of these preparations, and the cases which produced them, viz.

That there is a relative and proportionate activity of the absorbent and secreting vessels in fractured bones.

That the different functions and actions brought into play by the fracture, and which must chiefly act through the periosteum, display a constant ten-

dency to extend far beyond the seat of injury.

That the activity of the reparative process is greatest at first.

That time gives no correct criterion of the degree of reparation effected.

That any modified or morbid action of the periosteum exercises the most important influence on the issue of a case of fracture.

Lastly, that the process adopted by nature in gun-shot fractures, of the femur especially, is protracted and exhausting, bearing no proportion to that resulting from similar fractures of other bones.

Hence a principle of practice to bleed but very sparingly during the inflammatory stages, and not at all unless it is very urgently indicated; remembering the long exhausting process which must follow, and that on the strength and resources of the patient's constitution will depend, in a great measure, the successful issue of the case.

With these conclusions, having already gone at some length into the facts on which they are founded, I can very shortly give the practice which results.

From the numerous cases I have seen myself, added to all on the records of military surgery, under no ordinary circumstances can I consider it justifiable to reserve a gun-shot and comminuted fracture of the femur—and comminuted they almost invariably are—for treatment with a view to save it. Out of thirteen cases which, from unavoidable circumstances, were thus the subject of treatment after an action, but one survived without secondary amputation; and he, at the end of two years, was bed-ridden with a useless limb; and in twenty others, one of three results were observed: they either died without the opportunity for operation; or, 2dly, amputation became obviously the only resource; or, 3dly, they survived bed-ridden with a useless limb: and these were all young and healthy men.

In gun-shot fractures of the leg and foot, very extensive comminution of bone, and severe laceration of soft parts, may make amputation even here advisable as a first measure. The majority, however, if not otherwise complicated, may be saved. Even a grape-shot will sometimes obliquely traverse the leg, causing, of course, very extensive laceration, and yet the patient do well. Two such cases came under my notice.

Gun-shot fractures of the humerus, if much comminuted, or pulverized as I have seen them, offer but small chances of recovery. One of the worst cases I have noticed occurred with M. St. Leger, the Conde de Bemposta, and aide-de-camp of the late Emperor Don Pedro. On the 29th of September, 1832, his arm was severely shattered about the centre by a musket-shot. By great care, with every means and appliance, many counter-openings for matter and extraction of fracture, he ultimately recovered, after many months of suffering. When I last saw him, some five years ago, not only were all his wounds healed, but he could give a moderately cordial grasp with the hand of the injured arm—quite cordial enough for a courtier, at all events.

These cases are very tedious, and give rise to extensive mischief in the surrounding soft parts. Yet still, except in extreme cases or where there is very close proximity to the joints, the attempt may always be made with propriety to save them.

In the forearm there is scarcely any degree of injury to bone from a musket-shot that can require or justify amputation in the first instance. Shortly after the landing of the army in Portugal, while the English were still *pêle-mêle* with the Portuguese, in their hospitals, I was searching out the English wounded, that I might have then separated and classed, in order to attend to them myself, when the Director pointed out one to me, saying that he and his colleagues purposed, if I had not come, to have amputated the arm. On examination, I found it was a comminuted gun-shot fracture of both radius and ulna in two places, and, thanks to the bandaging he had undergone, the arm was swelled, tense, and ill-conditioned in its appearance. I begged that he might be left to me, stating that those were cases which English surgeons always endeavoured to save, and generally succeeded. At this moment, Don Pedro, with his staff, paying a visit to the hospitals after the action, entered the ward, and coming up to me, seeing an ugly-looking arm in my hands, said, in his usual sharp and abrupt manner, in French, "I hope you are not going to cut it off!" I replied that I was not. "Ah!—bien,

bien!—Glad of it, for I know you English think nothing of lopping off a limb!" I thought this somewhat hard, since I had just snatched it from the knife of his own people, and told him I was much prouder of saving a limb than cutting one off: and then he told me an anecdote of some English colonel who had said, after losing a leg, that he was sorry he had not lost an eye also, as the double pension would just have made him comfortable. He evidently entertained an impression, that not only had we no just value for eyes and limbs, but an exceeding covetousness for the pensions, which would have to come out of his exchequer. However little accustomed, probably, to hear an opposite opinion urged to his own, he always remembered it, and rarely passed me, either in Oporto or Lisbon, afterwards, without stopping and asking me half a dozen rapid questions. Notwithstanding his Imperial Majesty's opinion of English surgeons, I saved the limb, and made it a useful one too; and this will generally be found possible.

Here is an example of failure, however: you see the ball imbedded and crusted over with callus, lying between the radius and ulna. This wound, after many weeks' treatment, produced a permanent twisting downwards and contraction inwards of the hand, so as to render it not only useless but exceedingly inconvenient; and all measures failing to prevent or amend it, the arm was amputated. But had the ball been discovered and extracted in the first instance, I have little doubt that a useful hand might have been saved*.

A CASE OF COMPOUND FRACTURE OF THE ULNA.

Mortification—Amputation—Recovery—Appearance of the Limb on Dissection.

WITH REMARKS.

To the Editor of the Medical Gazette.

SIR,

SHOULD you consider the following case of sufficient interest for insertion in your valuable periodical, it is much at your service.—I am, sir,

Your obedient servant,

WM. ROBBS, M.R.C.S.

South Terrace, Grantham,
April 10, 1839.

B. Henson, aged 27 years, a stout-made man, who is occasionally subject to epilepsy; while repairing a chimney, on the 15th of October, 1838, he was taken in a fit, and fell from the top of the house, a distance of about forty feet. The fall was broken by his right arm catching on the iron palisade, and becoming partially transfixed. It fractured the ulna, about midway between the elbow and wrist-joints, into several portions; a great destruction to the skin, cellular membrane, and muscles, also took place. He was unable to stand; the left side and thigh were much contused. At this time (9 o'clock A.M.) the skin is cold; the pulse feeble, and scarcely to be felt; and he appears unconscious of what has happened. I placed the injured parts in position as far as they could be, and retained them there by means of sutures and adhesive plaster. After the wound was dressed and splints applied, so as to keep the arm between supination and pronation, he was placed in bed.

2 o'clock P.M.—Great pain is experienced in the injured arm, and slight bleeding has taken place, but to no great amount. The surface of the body is warmer, with a pulse of 96, and very feeble. The lower part of the arm and hand are growing warmer, but re-action is not yet re-established.

Sumat. Mist. Magn. c. M. Sulph. f.ʒj. 4ta quâque horâ.

7 o'clock P.M.—He has had an epileptic fit, during which he struggled a great deal. There has been slight bleeding from the arm; the pulse is 100, and full; the skin warm; the countenance flushed; and he complains of severe pain in the injured arm, left side, and thigh.

Fiat Venæsectio ad lb. j. Repet. Haust. omn. horâ donec alvus responderit.

16th, 10 o'clock A.M.—Has been very restless during the night; the bowels have been evacuated; the upper part of the arm is very hot, while the lower part and hand are cool, and of a dark colour. The pulse is 110, and soft; and he complains of pain in the arm and

* ERRATA IN LAST PAPER.—The paragraph immediately succeeding fig. 4 referred to a sketch not used. The note at the end, purporting to describe the woodcuts, was also inserted by mistake, not referring to those engraved.

about the elbow. On removing the bandage, the sore presents a very unhealthy appearance.

Ordered a poultice of ale-grounds and linseed-meal to be applied every four hours. Sumat T. Opii, ℥xl. statim. P.

I was absent from home from this time till 10 o'clock A.M. the following morning, during which, he was under the superintendence of my friend, Mr. Higham. In the evening, violent symptoms of pyrexia came on; the pulse was 140, full, and hard; the face was flushed; he was extremely delirious, and very restless.

Anodyne and saline remedies were given.

17th, 10 o'clock A.M.—He has been extremely restless during the night; the face is highly flushed; the pulse 140, soft, and intermittent; the lower part of the limb is quite cold and senseless. There is a very feeble indistinct pulsation to be felt over the radial artery, but not the least over the ulna; and on pricking and pinching the fingers, no pain or sensation is communicated. The inflammation has extended between two and three inches above the elbow; the wound is very offensive, and in a state of sphacelus. The surface of the skin is of a dark colour, quite purple over the hand and fingers; the cuticle is raised, and the cellular membrane appears light and spongy, discharging large quantities of ichorous matter as if from fermentation.

I met Dr. Turner and Mr. Higham in consultation, when it was agreed the limb should be removed by amputation without further delay. At half after eleven o'clock, in the presence of Messrs. Higham and Jeans, I commenced the operation by the circular incision; the limb was removed in a few minutes, with the loss of only two or three ounces of blood. He bore the operation well, never once complaining of pain, which I conceived to be an unfavourable symptom. The limb was separated about two inches below the shoulder joint, and, after taking up the arteria humeri et arteria circumflexa superior, the stump was dressed in the usual way, bringing the edges of the flap together by means of strips of adhesive plaster; and he was subsequently placed in bed.

Sumat T. Opii, ℥ xl. c. Aquæ Cinnam. f.℥i. statim. Diet, beef-tea, Port-wine, with sago or arrow-root alternately, every two hours.

18th, 9½ o'clock A.M.—Has passed a comfortable night; has had no pain; the stump feels warm, and the skin is moist, and of natural temperature. The pulse is 120, weak, and irritable; the tongue moist, and rather white; the countenance natural. He is perfectly sensible, and says he feels much relieved from the operation.

B. Morphiæ Hydrochloratis, gr. j. Confect. Aromat. q.s. Fiat pil. iij. quarum j. sextâ quâque horâ sumenda.

Vespere.—Continues much the same, but has had slight spasmodic twitchings during the day.

Sumat T. Opii, ℥xl. c. Hydr. Chloridi, gr. iij. horâ somni. Haust. Olei Ricini, f.℥i. cras mane sumendus.

19th.—Has had a good night, and appears in every respect going on well. The bowels have been relieved; the discharge from the stump is rather profuse, serous, and very unpleasant. From this time he continued to go on much in the same way till the sixth day after the operation, when the stump was dressed.

On removing the strips of adhesive plaster, the upper part of the wound is closed by adhesion, but considerable discharge of pus mixed with sanious matter is voided from the lower half, and at this part little or no adhesion has been effected; and a slough, the size of a crown-piece, is visible on the upper edge of the wound. The skin is warm and moist; the tongue clean; the pulse 100, stronger, and more natural. The stump is perfectly sensible, and he complains of pain in the fingers and hand of the removed limb.

Diet—mutton chop and pint of ale daily, in addition to his beef-tea, port-wine, sago, &c.

Eighth day after the operation.—The plasters are again changed; the discharge from the lower part of the wound continues, but it is of a more healthy appearance, and not so much in quantity. Pergat.

Tenth day after the operation.—The slough on the upper and outer part of the wound separated, and came away within the plasters; and the granulations appear healthy. In all respects he is doing well.

On the thirteenth and sixteenth days after the operation the plasters were

changed, when but slight improvement, as far as the healing process was concerned, had been effected. The axillary glands were enlarged, and the skin of a red colour. The constitutional symptoms keep improving.

Oct. 31st.—On changing the plasters the ligature came away with an extensive slough of cellular membrane, followed by a slight discharge of blood. A moderate rate of pressure was made in the axilla, and continued downwards by means of a pledget of lint and adhesive plaster.

Nov. 5th.—The discharge from the wound has been slight since last report, and on removing the plaster it is nearly healed.

8th.—This evening, while he was walking across his bedroom, he suddenly fell down in a fit, during which he struggled violently, and struck his stump against the floor and a box that stood near, which caused the loss of about three or four ounces of arterial blood. His sister states it to have "come out of the wound in a jet, as if from a pump." On my arrival the hæmorrhage has ceased, but the stump is much swollen and extremely sensitive, so much so that he will not allow any one to touch it. He was ordered to be placed in bed, and to have linen rags wetted in an acetous lotion constantly applied to the wound and upper part of the shoulder.

℞ Pulv. Opii gr. ¼; Hydr. Chloridi gr. j. ex pil sextâ quâque horâ cum haustu sequente.

℞ Mist. Mag. c. Mag. Sulph. f.℥ij. ex hausta. Diet—milk and sago, or arrow-root.

9th.—No return of the hæmorrhage; the stump is much swollen round the edges of the wound, and its lips are open and very tender. The bowels have been freely acted on, and towards this morning he got some sleep. From this time he was kept to his bed, the stump healed slowly, and with great contraction of the integuments. An abscess formed in the axilla, which communicated with the wound by a fistulous sinus; but by keeping up a gentle pressure by means of pledgets of lint and adhesive plaster, the communication with the latter was cut off, when the former readily healed.

Owing to this man being subject to epileptic fits, during which he would fall down and struggle violently, I had a boot made for the stump and stuffed with cotton, which proved a great protection to it.

Appearance of the limb on dissection.—The skin was highly discoloured, and the cutis was easily to be stripped off. The cellular membrane was highly injected with serum, which caused the limb to be much swollen as high as the elbow-joint; but the redness and inflammation had extended for three inches above this part. The fascia was lax, and much gorged with fluid; the muscles on the outer side of the arm were in a natural state, except that they might be more relaxed than usual. All the flexor muscles were of a very dark colour, and about the injured part no attempts at separation had taken place. The arteria radialis was normal, but the arteria ulnaris for about two and a half inches opposite the wound was of a black colour, and had evidently lost all vitality; the anterior and posterior interosseous branches were in a similar state. The veins were filled with a thick dark-coloured blood; and their coats, in the neighbourhood of the wound, were of a pink colour. The absorbent vessels about the elbow-joint had the same appearance. The ulna was fractured obliquely, and the fracture comminuted.

Remarks.—In the foregoing case a question arose whether amputation ought not to have been resorted to on the receipt of the injury; but when the circumstances of the patient were taken into consideration, that he was entirely dependent on his manual labour for his subsistence, it will be evident that it was most desirable to preserve the limb if possible, and his age and constitution were favourable for that purpose; in fact, his limb was of as much importance to him as his life. The wound putting on the appearance of sphacelus, and the inflammation having advanced above the elbow-joint, left no other alternative but immediate amputation to save the patient's life. A portion of the stump subsequently assuming the same appearance as the wound, indicated an unfavourable result; but by a generous diet, and a liberal allowance of port-wine, enabled the constitution of the patient to recover itself. The sudden loss of blood caused by the accident, which happened on the 8th November, must have been discharged from a small

branch, and not from the principal artery, otherwise troublesome hæmorrhage would have ensued. The subsequent contraction of the skin, together with the loss of substance caused by the slough, exposed a small portion of the bone, which exfoliated; and subsequently the wound healed perfectly sound and healthy.

EFFECT OF WARM FLUIDS.

To the Editor of the Medical Gazette.

Sir,

A recent observation of a series of morbid phenomena, often noticed before, but not till now sent beyond the limits of my common-place book, has induced me to solicit admission for them into your widely-circulating journal; having the honour to remain, sir,

Your obedient servant,

Nathaniel Rumsey.

Beaconsfield, March 29, 1839.

Symptoms of Irritation—Pseudo-fever—Effects of warm Fluids received into the Stomach.

I have not unfrequently been struck with the good sense of a popular author on education, who, somewhere in her writings, draws an analogy between facts worthy of preservation, though not intelligible, and articles to be laid by for a future day, when circumstances may arise calling for their use. During my opportunities of observing disease I have been in the habit, when meeting with phenomena which I could not understand, nevertheless of noting them down, and looking with some hope for light on the subject to future experience, frequently appending to the memorandum an interrogation, such as, "What is the explanation of this?" "What is it?" &c. I have very often had the satisfaction, at the distance of eight, ten, or more years, of adding the reply, the solution being derived from a further accumulation of facts. I have also borne in memory many similar interrogations, without particularly noting them down; and to these also, after a lapse of years, have been able to furnish a reply. It was so with regard to a set of phenomena long ago noticed, and since receiving an explanation which I think of sufficient importance to preserve with care. I have never heard that any similar view of them has been taken, and not doubting that they must often have led practitioners into serious error, I feel called upon to submit them to the medical reader.

My first view of these phenomena is recorded in the following narrative:—

Many years ago I was myself the subject of typhus fever. Having passed through the disease, my debility was great, and convalescence interrupted by what appeared to be the daily occurrence of symptomatic fever; the cause not obvious, but suspected to be a pulmonary affection. After a great length of time, an unfavourable prognosis, and groundless anxiety in my friends, I recovered. The regular depression of bodily and mental power, which began about eleven o'clock A.M. daily, the heat of skin, quick pulse, and sweating, gradually left me. No confirmation was, by the termination, added to the opinion that local disease had existed; and the correct understanding of the case—to use the principle of the writer on education—was reserved for a future day. It became apparent to me at the distance of many years afterwards, made so by other facts, that these symptoms had been the effect of drinking daily for breakfast a large basin of warm milk, under the state of debility induced by the long-continued disease. I do not doubt that many similar facts may have occurred to me within the next few years, and as little understood; but in my subsequent experience, I have been brought to a confident belief that they are of no unfrequent occurrence, and that their cause is as clearly made out as it is important to be known.

These phenomena, which are, as it were, a mimicry of irritative fever, or that which is symptomatic of local disease, are particularly incident to patients reduced by loss of blood. I will therefore recite another case of recent occurrence, in a patient under that condition, to elucidate my meaning, and exhibit the importance of a correct view respecting it.

A lady having miscarried in the middle of the fourth month, suffered under repeated and alarming attacks of uterine hæmorrhage for three weeks; in consequence, as it was supposed, and afterwards proved, of a retained pla-

centa. I assisted in removing it at the end of that time, with much difficulty, and in separate portions, fearing much the consequences which might follow the unavoidable employment of the means used for this indispensable alternative. No symptoms but those of an exsanguined and weakened patient followed through the critical period of the next four days, after which, to the concern of my son, Mr. John Rumsey, who was in attendance, some circumstances arose which rendered him dissatisfied with the symptoms and progress of the patient. He reported that she had had, on several successive days, a paroxysm, marked by heat of skin, profuse sweating, great depression of all the powers of body and mind, a tongue thickly furred, slimy and dark in the centre, a pulse very feeble, with an increase of forty beats in a minute, and great despondency on her own part as to recovery. Hence, he expressed his fear that some source of irritation was still in existence (at that time a very probable thing), and augured unfavourably of the issue. Seeing her now, after some days' absence, a little inquiry led me to believe that this apparent fever was mere irritation, arising, as in the various other cases which I had seen, solely from receiving into the stomach a bulky, warm, and vapid fluid; and I was confirmed in this opinion by being able to trace, with the assistance of the patient, that the symptoms had, on one occasion, followed the use of two or three cups of tea, and at other times the liberal potation of warm chicken-broth. I was thus able, with great confidence and pleasure, to give a favourable prognosis.

I directed that evening that she should take a draught of good home-brewed ale, cold from the cask (Jan. 1 or 2), thus combining the exhibition of nourishment and a stimulus to the system, with the application of cold to the stomach *.

The purpose was answered equal to my expectation. Animal food in small quantities and malt liquor, were continued, and a careful disuse of the warm fluids observed. It is now several weeks * since this change was made; no paroxysm has returned, and nothing has interrupted a daily improvement, the case having exhibited another instance of the peculiar affection I wish to describe.

I have seen this disturbance of the system usually assume the form of a paroxysm of fever, but on some occasions to consist of successive fits of fainting and hysteria; nevertheless coming on as a fit of fever, in point of time and duration †.

If I might venture a conjecture as to the *modus operandi* of the warm fluids, I would suggest that the heart, morbidly sensible, responds too promptly to the stimulus of heat, when introduced into its neighbouring organ—the stomach, in so bulky a form as in the cases quoted and referred to; but in its endeavours to obey, incommoded by the pressure of bulk, and incompetent to a normal action by debility, makes its embarrassed struggles, disturbing the whole system by the failure and perversion of its function.

Nothing can be more simple than the indication of cure. Nourishment without bulk, stimulus regulated as to degree by judgment and discretion, not only without warmth, but actually cold internally; with rest, tonics, and attention to warmth externally.

The importance of distinguishing the true character of these symptoms is not as the danger which they threaten, but as the danger which may be connected with an erroneous view; leading to a wrong prognosis, and the institution of remedies upon a wrong principle.

The previous debility or nervous temperament of the patient, the absence of satisfactory evidence of local disease, the effects of the concurrent use of warm fluids, and the febrile symptoms, often marked by unusual depression of spirits, may justly excite suspicions of the cause, and lead to a correct diagnosis; whilst nothing has served so

* Of the power of cold applied to the stomach, to allay a very disturbed and distressing action of the heart, I frequently saw an instance in the late well-known old huntsman of the Berkeley Hunt, who, after the failure of æther and other stimuli, found an admirable remedy in swallowing a bottle of cold soda-water, which always instantly relieved him. I also have frequently seen a cold fluid swallowed act as an auxiliary in lowering arterial action in various febrile conditions.

* Three months have now elapsed, and the patient's restoration is nearly completed.

† A lady, on whom a slight operation had been performed in the face, having had previously no fever, became agitated and hysterical. She had, the next day, a strongly-marked paroxysm of fever; no doubt arising out of the previous day's hysteria. It never returned.

powerfully to establish the view which I have taken as the subsidence of the symptoms upon the use of the cold tonic principle. The frequency of this condition has been such, that I fully believe its occurrence to the notice of any attentive observer having moderate opportunities, could not be rare.

There is a febrile condition more immediately incident to loss of blood, which, so far as relates to its intimate connexion with debility, bears some analogy with this state. I first observed it about the 1817, and having shortly afterwards seen it again several times, and under various circumstances, communicated an account of it through the Edinburgh Medical and Surgical Journal for January 1819 (vol. xv. p. 55), with my opinion of its importance. I do not know that any account of such a state had been published before; but I had the pleasure to see, some four or five years afterwards, that a similar observation and opinion had been made and published in the writings of two distinguished pathologists of the present day, whose high character had so stamped an important value upon it, as to have obtained for it a place in the catalogue of important modern medical improvements *.

DIAGNOSIS IN ADHERENT PERICARDIUM.

To the Editor of the Medical Gazette.

Sir,

As the opportunities of obtaining post-mortem examinations are comparatively rare in illustrating the pathological condition in cases of rheumatic pericardites, I am induced to offer from my "Note-Book" the following case, which, should it prove worthy a place in your journal, you will greatly oblige,

Your obedient servant,

Perry Dicken, M.R.C.S.

Ashby-de-la-Zouch,
April 1839.

Amelia Harris, æt. 18, a girl originally of stout frame and healthy constitution, was admitted into St. George's Hospital, Dec. 22d, in a very emaciated and debilitated state, and giving the following history of her case; states, "that about six months before her admission she was laid up with a severe cold, which was followed by some feverish excitement, and subsequently she was attacked with acute rheumatism, affecting the arms, wrists, and hands; she was placed under medical treatment (and as the inflammatory symptoms became aggravated), and was bled extensively, both generally and locally. Under this active treatment the pains in the limbs gradually subsided, but soon after she began to experience much uneasiness from inordinate action of heart, which continued to increase, up to the time of her admission." On coming to the hospital, Dec. 22d, present symptoms are great debility and much irritability of the system; countenance pale, sunk, and anxious; breathing short and frequent; pulse 80, full, jerking, and very intermittent; skin hot and dry; lips perfectly livid, from apparent loss of blood; inordinate and tumultuous action of heart, which is felt beating over a very large surface, and sensibly elevating the ribs; much tenderness in epigastric region on pressure, and over the cardiac region also.

Stethoscopic signs.—Distinct rough friction sound (the to-and-fro sound of Dr. Watson) accompanying the alternate motions of the heart, so loud as completely to obscure the natural sounds of the organ, heard distinctly over the entire left side of thorax, and under both clavicles, and conveying the idea of a very rough grating noise to the ear; great dulness on percussion over the whole cardiac region to a considerable extent.

Hirudines x. regioni cordis statim.

℞ Hydrarg. Clorid. gr. iij.; Pulv. Opii, gr. ss. et rept. 4tâ quâque horâ. Ol. Ricini mane. Emplast. Lyttæ regioni cordis post hirudines.

25th.—No alteration in the symptoms; pulse 120, sharp, small, but has become quite regular; expresses herself a little better; some sickness and irritability of the stomach; friction sound very distinct, and there is a sense of roughness communicated to the hand when applied over the region of heart; dulness on percussion still very extended.

Pt. in usu Hydrarg. Chlorid. ut antea.

℞ Acid. Hydrocyan. Dilut. ♏iv.; Misturæ Camphoræ ℥j. ter die.

* Cyclopædia of Medicine—"History of Medicine," p. cix.

29th.—Gums slightly touched by the mercury; complains much of pain in left shoulder and arm, of a rheumatic character, and also of some tenderness in left mamma.

Hirudines viij. parte dolenti pectoris.

Jan 1st.—Considerable inflammation of the integuments over the left mamma, of an erysipelatous character; is occasionally delirious, and talks incoherently. Pulse very rapid, but quite regular; friction sound very loud and very rough in character.

Pt. in usu Hyd. Chlorid. ut antea, 8vâ. quâque horâ.

4th.—Countenance very anxious; has some cough, and much disposition to vomiting; considerable pain in chest, and breathing very short and frequent.

Pt. in usu remed. ut antea.

12th.—Heart somewhat quieter, and the action not extended over so large a surface; grating sound less distinct, and the valvular sounds can be heard over the region of heart; much irritability of stomach, and erysipelatous inflammation still spreading.

Omitt. Pil. c. Hydrarg. Chlorid. et capiat Haust. Salinum c. Tr. Hyoscyam. ℥ xv. 6tis hôris.

17th.—Heart's action very much lessened; impulse not so great; countenance less anxious; pulse quieter.

Auscultation.—Friction sound very much lessened, and the double beat of heart is distinctly heard; a slight bruit accompanying the first or ventricular contraction.

Pt. in usu haust. Salin. Effervesc.

18th.—The erysipelatous inflammation has spread itself over the whole thorax; she appears very low; pulse quick and small.

Auscultation.—Friction sound entirely gone; a bruit still exists, accompanying the ventricular contraction.

Vin. Rubri, ʒij.; beef-tea, &c.

Died next morning.

Post-mortem examination 36 *hours after death.*—Body not much emaciated. On opening the thorax, the left lung was found adherent, and an immense deposit of lymph and pus was found on the surface, completely coating it; no adhesions on the right side.

Heart of its natural size. The cavity of pericardium entirely obliterated, the opposed serous surfaces of the membrane being completely glued together by recent but firm adhesions both on the anterior and posterior part; there was a considerable deposit of organized lymph, giving it a shaggy appearance; the adhesions were easily broken down by a little force. Some vegetations on the aortic valves, otherwise healthy; heart very flabby.

Remarks.—From the history of the foregoing case, I am induced to offer some remarks, there being many points worthy of observation, which I shall arrange under three heads, viz.—

1st. The state of the patient on her admission, and the previous measures which had been adopted in the treatment of the disease.

2dly. The liability to metastasis which occurs in acute rheumatism, and its tendency to attack the fibrous membrane of pericardium.

3dly. The complete and correct diagnosis which was formed of the disease by stethoscopic examination.

1st. The state of the patient on her admission, &c.

It would appear from the history of the case, and from the bleached appearance of the patient, that blood-letting had been carried to a very considerable extent previously to her admission, with a view of relieving the inflammatory symptoms; and these measures, which at first appear to have materially lessened her sufferings, and relieved the acute pains in the joints and limbs, yet from the debility induced, the constitution was left in so irritable a state, that a predisposing cause existing, metastasis to some other organ readily occurred, and the fibrous membrane of the pericardium became at once the seat of the inflammation. Whether we may be disposed to view this metastasis rather as the result of the activity of the disease itself, or to the exhaustion produced by the depletory measures adopted in the commencement, will of course be a subject of speculation; but I am inclined to think, from the great quantities of blood which had been drawn, that much of the mischief arose from the latter cause.

2dly. The liability to metastasis occurring in acute rheumatism, and its tendency to attack fibrous membrane of pericardium, &c.

This fact until later years had much escaped the observation of pathologists,

but has now been so completely demonstrated, that all doubts on this subject seem to have been laid aside. M. Bouillaud, indeed, goes so far (I believe) as to advance that there are very few cases of acute rheumatism in which the fibrous membrane of the pericardium is not implicated. I am much inclined to think that it does very often occur; but often so slight as not to be detected unless particular attention is directed to the organ. I do not, however, conceive that M. Bouillaud ever regards bloodletting at all as an exciting cause of the disease, for his practice is diametrically opposed to such an opinion, consisting in the free and repeated abstraction of blood until the inflammatory symptoms are subdued, and the circulation quieted; but his attention at the first onset, and during the progress of the disease, is carefully directed to the heart, in order that he may be enabled to ascertain the first symptoms, and attack the disease *in limine*.

3dly. The correct diagnosis afforded by stethoscopic examination.

This happened to be a case in which the auscultatory signs were so remarkably clear, that no possible doubt could exist as to their certainty. On the patient's admission, when the lymph had been recently thrown out, the "to-and-fro sound" was so distinct that it could be at once appreciable to any one, however unskilled in the art of auscultation. All the natural sounds of the heart seemed quite drowned in the morbid development; subsequently the gradual decrease in the intensity of the sound marked that adhesion was commencing; and finally, its total decline before the death of the patient, proved beyond a doubt that adhesion of the serous surfaces must have taken place, and therefore it became physically impossible that the friction sound could any longer exist.

In offering these remarks I have nothing new to bring forward, I merely wish to communicate facts; and as it is these which we chiefly are in want of in investigating disease, I was induced to offer my mite (however insignificant it may appear); should it, however, have the effect of altering the opinion of any one member of the profession who is credulous on the subject of the signs to be gained by auscultation in this disease, my object will be fully answered.

MEDICAL GAZETTE.

Saturday, May 11, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL CHARITIES.

HUMAN nature, said Luther, is like a drunken trooper on horseback; down he falls on one side, and if you set him up, down he falls on the other. This piquant saying of the great reformer is curiously exemplified at this moment, in the relief of the poor. Some half dozen years ago the error was supposed to be on the side of indulgence. "You are turning all the poor," cried the Malthusians, "into spoiled children; the workhouses have become so many well-furnished taverns; beer and pudding are to be found in these epicurean asylums; and, instead of teaching ploughmen how to read Bacon (as Lord Brougham wished), you are teaching them how to eat it."

These outcries had their effect; beer and bacon have disappeared; and the workhouses, changed by the harlequin touch of an act of parliament into Union Bastilles, have become spots for trying experiments on human beings, and ascertaining the minimum of water-gruel just above the dysenteric point.

This is a splendid victory; but your true starver,

"Nil actum reputans, si quid superesset agendum,"

is far from being satisfied. He considers this a mere ovation, when he had hoped for a triumph. He longs to pursue misery into all its fastnesses; to haggle with it; to reproach it with all its transgressions; and lastly, to give it ——his advice. With the present distribution of the poor-rate our political economist is pretty well contented; but are there not other sources of relief, which, as he says, tear up every social bond by the

roots, and are rapidly turning England into a wilderness? Are there not almshouses, where luxuries are lavished on the thriftless? Do not many make it their business to corrupt society at the very core by giving meat, coals, and blankets, to persons found guilty—on the clearest evidence—of being penniless? And last, not least, are there not hospitals where disease is admitted without inquiring how many children the patient has? and where reckless physicians take in the starving, and call the malady *atrophia?*

This last branch of Malthusian complaint has been dilated upon by one of the physicians of Sheffield, in a volume now before us*, which will be nuts to the economists. The late Mr. Walker, the police magistrate, in his work, called *The Original*, hinted pretty broadly that he wished to put a stop to all charity, public and private; but with this exception it would be difficult to find any one so retentive as the author of the "Inquiry." His charity is infinitesimal; and instead of falling, like the dew of heaven, on all who may require its influence, comes like an ungracious spirit on the heads of a select few. To find patients for an infirmary is generally an easy task; but so near an impossibility, if the author's tests are adopted, that we would rather beat up for recruits for the most select and exclusive regiment in the service. Become of his sect, and you may pull down three-fourths of the hospitals in London to-morrow, or convert them into lodging-houses for assistant commissioners. When the drummer, in the story, was flogging a deserter, the unfortunate man cried out, "too high! Too high!" and when the drummer endeavoured to comply with what seemed to be his wish, he exclaimed, "Too low! too low!" Now this is the author's case to a T; his patients are either too high or too low. If they come in silk gowns, with nice shawls and clogs, they are too rich, and should be sent to their own doctor; if they are shirtless and shoeless, hungry and forlorn, they are too poor, and should be sent to the workhouse. The Irish, it seems, are often convicted of extreme indigence, and, as a general rule, would be rejected by this test.

But, perhaps, the reader may say, "it should go hard with me but I would slip into the Sheffield Infirmary; I would gratify this stern exclusionist by the decent mediocrity of my dress: a thread-bare coat, a checked shirt, and patched shoes, would find the road to his heart, and I shall be taken in." Never was there such a mistake. For

"1. Single men in employment have not the slightest claim.

"2. The married operative in work, with no family, or only a small one, is equally unentitled.

"3. The operative receiving high wages, though he may have several children, cannot be regarded as necessitous.

"4. The operative who has sons or apprentices working for him, can establish no claim to relief.

"5. Neither male nor female servants in place, and attending to their respective duties, nor apprentices whose masters are in good circumstances, are proper objects."

In Beaumarchais' exquisite comedy, Figaro says that you may print what you please at Madrid, provided you speak neither of religion, nor politics, nor the court, nor the law, nor the theatres, nor any one who has any thing—under the inspection of two or three censors. So at Sheffield, under the improved system, you will get into the infirmary if you are neither rich, nor poor, nor single, nor married, have neither a small family, nor a large one, nor a ser-

* An Inquiry into the moral, social, and intellectual condition of the industrious classes of Sheffield. Part 1. The abuses and evils of charity, especially of medical charitable institutions.

vant, nor an apprentice — subject always to the approbation of the physician of the day. On the 28th of January, in this year, seven patients applied to the author for admission; four were rejected, "presenting no clearly defined maladies, or such as required particular attention." The fifth was inadmissible, being a fever case. The other two were admitted, one undeservedly so, but the author tells us that he was tired of rejecting. The seventh, as we are left to conjecture, belonged to one of the few and thinly-peopled classes that not only are, but ought to be, admitted into the most exclusive of all infirmaries.

Again, in order to contrast the present ruinous system with absolute perfection, the author takes a hundred in-patients indiscriminately, and, dividing them into twelve classes, shews who ought and who ought not to have been admitted. The first division consists of seven widows, two single women in no permanent situation, and three persons with five or six children each; making just a dozen out of the hundred. Two other classes given in the list are not mentioned in the commentary. They are, two persons having seven or eight children each, and two widowers. According to our author's rules, a man is to be rejected if he has children old enough to work, which might probably be the case with the "two persons;" but there is no law touching widowers. Hence we can only be sure of the genuine admissibility of 1 in 8½ of those actually admitted; and 88 times in 100 the money of the subscribers was wasted in a manner which our brother of Sheffield deplores throughout his hundred and thirty-two royal octavo pages.

This is good Malthusian jargon, no doubt; but did the founders of hospitals think after this fashion? Did the lovers of the human race, to whom Europe is indebted for its charitable institutions, apply these critical tests, and endeavour to prove to poverty that she was in the wrong?

Let a French writer answer the question:—Christian charity, he says, "dans son immense amour pour les hommes, ne fait aucune exception de leurs maux, et voudrait les soulager tous. Son zèle ardent ne connaît point de bornes à ses secours: ce qui est misère, elle l'assiste; ce qui est nu, elle le couvre; ce qui est faiblesse, elle l'excuse; ce qui est crime, elle le pardonne*."

This is the height of benevolence, a height which some may find it difficult to attain; but what shall we say of the modern proposals to go below zero on the scale—to cut off the supplies destined for the relief of the sick—and, under pretence of teaching frugality and foresight, to leave misery without succour?

The fact is, that the founders of those great asylums for disease which do honour to humanity, had seen the manifold suffering to which the sick poor were exposed; sometimes perishing for want of assistance; sometimes injured by the attempted aid of the unskilful; and sometimes overwhelmed with debts incurred for medical advice. They saw and acted. Not a trace of the restrictions proposed by the Sheffield physician is to be found in the regulations of their hospitals. Neither servant, nor apprentice, nor single person, is excluded. No married man is to be rejected because he has so few children that he may maintain them, or so many that they may maintain him.

As for the Sheffield Infirmary being constantly imposed upon, in our author's phrase, we conceive it to be one of the greatest mistakes he has fallen into, as we shall shew in our next article; but

* M. Benoiston de Chateauneuf in the Annales d'Hygiène for Jan. 1839.

it would be cruel to deprive our readers of a rich bit of the Malthusian language, with which we will conclude the present one. After shewing that the number of patients at the Dispensary has not fallen off much during years in which trade has been good, our brother of Sheffield says, "A taste for charity is created, and it will inevitably be gratified. Were the occasions greatly enlarged, the feelings would grow in a geometric proportion." This is pleasant, when we consider that a taste for charity in this instance means a taste for jalap, tartar emetic, and asafœtida!

CLINICAL LECTURE,

Delivered at University College Hospital, March 28, 1839,

BY SAMUEL COOPER,

Senior Surgeon, &c.

GENTLEMEN,—I wish to bring under your consideration this morning three interesting cases: one of strangulated hernia, which required an operation; a second, of suppuration upon and under the dura mater, from an injury of the head, attended with symptoms that induced me to have prompt recourse to the trephine; and a third, of diseased hip, complicated with extensive abscesses, and dislocation of the head of the femur on the dorsum of the ilium.

In the description which I shall give of each of these cases, you will find some points of considerable interest to the practical surgeon, such as every gentleman desirous of excelling in his profession will deem well deserving of a place in his recollection.

CASE I.—*Oblique Inguinal Hernia of fifty years' duration, and very large size, strangulated — Operation—Hernial sac divided into separate compartments, &c.*

James Bull, æt. 63, a gouty subject, admitted February 28, at ten o'clock P.M., with a strangulated scrotal hernia on the left side. He had been subject to the descent of the parts for 50 years; but they had in general been reduced without much difficulty. They came down, however, about three o'clock to-day; and the surgeon under whose care he was, having repeatedly tried the taxis in the course of the day without success, now sent him to the hospital. Two or three scanty evacuations from the large intestines had been obtained by means of an injection.

On the man's entrance into the hospital the hernia was very large, nearly equal in size to a man's head, tense, and slightly elastic, but with a dull sound on percussion, as if much fluid or fæcal matter were contained in it. The weight of the swelling was considerable, and its neck tense and hard. The testes were situated below the tumor, and the left vas deferens could be felt under the skin, to the left of the rest of the spermatic cord. The patient was occasionally sick, and experienced a good deal of pain in the swelling, and in the abdomen.

The taxis and warm bath having been tried again, and proved ineffectual, I held a consultation with Mr. Quain, and it was determined that the best chance of saving the man's life would be by performing the operation before peritonitis came on; and after dividing the tendon of the external oblique, to reduce the bowels, if possible, without opening the hernial sac.

I made therefore an incision, three inches in length, in the direction of the neck of the hernia inwards and downwards, dissected down to the abdominal ring, and easily passed a director between it and the investments of the hernia. On this instrument the tendon of the external oblique was divided to the extent of about three-quarters of an inch. Having secured both ends of the superficial pudic artery, which was large and bled freely, I made every endeavour to reduce the viscera without opening the sac; but neither I nor Mr. Quain found it possible to accomplish this purpose.

I therefore opened the hernial sac with the usual precautions; and, this having been done, nearly a pint of serous fluid gushed out. A large piece of thickened omentum was now exposed; and, on holding it aside, the bowel presented itself, which, owing to its quantity (five feet), was not reduced without difficulty. With the able assistance of Mr. Quain, however, this was at length effected. The part of the protruded bowel last reduced was of a dull chocolate colour, but the remainder retained its natural appearance.

The question then arose, what ought to be done with the thickened omentum? I might have tried to reduce it; but there would have been some difficulty in doing this; and perhaps, after the reduction of the mass, inconveniences might have resulted from it. I might have left the whole of it down in the wound, in the expectation that most of it would have

gradually dwindled away, and the parts have healed over the remainder. I might have cut away the greater portion of it, then tied the bleeding vessels with silk ligatures, and reduced the upper part of it into the cavity of the peritoneum, cutting off the halves of the ligatures, and leaving the ends of the other halves hanging out of the wound. As this last plan would have been attended with some risk of effusion of blood into the abdomen, I decided to cut off the omentum near the upper part of the hernial sac, tie the bleeding arteries with fine silk ligatures, and leave the omentum in the neck of the sac undisturbed. By this means all possibility of a bleeding into the cavity of the peritoneum was obviated, and no large mass of omentum was left down to interfere with the process of cicatrization. Several of the omental arteries required ligatures, and after these had been applied, and half of each cut off, the remainders of them were gathered into a bundle, and left hanging out of the wound.

Wet lint was laid over the wound, and a compress and spica bandage put on. An enema was now administered, which was soon followed by two or three copious motions, and the patient passed a tolerable night.

March 1.—10 A M. pulse 96, full and wiry; some pain in the abdomen, increased by pressure.

Twelve leeches to abdomen; fomentations; 3j. of Sulphate of Magnes. in ℥j. of Mint water every hour. An enema.

10 P.M.—Has had two motions. Pulse 92, softer, but intermits.

2d.—In consequence of there having been a good deal of pain in the abdomen in the early part of the night, a blister was applied. Bowels open.

3d.—Pulse 70. From this period the patient went on, with some fluctuations in his condition, tolerably well, with tonics, full diet, ale, porter, wine, &c., till the

20th.—Complains now of great pain in the chest, and frequent cough. Bowels open yesterday; pulse 100; thirst.

Blister to chest, and cough mixture.

21st.—Worse; has had no sleep; has subsultus tendinum; wound healing; bowels open. A swelling in the scrotum was suspected to be a portion of bowel that had slipped down again; but there were no symptoms of strangulation. The part, whatever it might be, was irreducible.

22d.—Died at three this morning, twenty-three days after the operation.

Post-mortem appearances.—Wound healthy, and omentum in it covered with granulations. *Chest:* serous effusion in the cavity of each pleura; ℥vj. on right side; ℥viij. on left, together with inflammation and deposit of lymph in the latter. Pneumonia of the upper two-thirds of the right lung, with hepatization. Petechial ecchymoses in the surface, and vesicular and interlobular emphysema of the lower third. In left lung pneumonia less extensive, but both kinds of emphysema throughout it.

The mucous membrane of bronchial tubes much injected and inflamed, and covered with copious muco-purulent secretion.

Heart.—Serous fluid in the pericardium. Heart somewhat hypertrophied. Ossification and extensive disease of the aortic valves, with dilatation of the ascending aorta.

Abdomen.—Omentum drawn into folds towards the left groin, where it was adherent to the external wound. About five feet of the ileum, above the cæcum, was of a darkish slate colour, and presented dark brown patches, from congestion. At one point, two feet from the cæcum, the ileum was adherent to the left groin by a membranous band. No signs of active inflammation in any part of the abdomen. A few serous cysts on surface of kidneys. Prostate gland enlarged to the size of an orange.

Hernial sac.—In the scrotum, just below the wound, there was a tumor of about the size of a large apple, which, to the touch, seemed very like a loop of intestine, distended with fecal matter. On dissection, it proved to be a cyst, partly distended with a serous fluid, and containing a thin septum, so as to form two distinct cavities. These were produced by a part of the old hernial sac remaining hollow, and adhesions taking place between two prominent folds of it, so as to constitute the septum.

From the groin down to the cyst, the sac was puckered and drawn into folds, and all trace of any cavity obliterated by organized lymph; which, however, was so easily broken through, that the handle of the scalpel could be passed from the above-mentioned cyst into the abdomen.

REMARKS.—This case, gentlemen, appears, then, to be one in which the immediate cause of death was principally thoracic inflammation; and the state of the parts connected with the former hernia, perhaps, had little or nothing to do with the fatal termination. All his pain and suffering before death were referred to the chest, and none to the abdomen.

Experience proves that numerous deaths after surgical operations, gun-shot wounds, and other mechanical injuries, are brought on by severe inflammation occurring in

internal organs remote from, and seemingly unconnected with, those which form the seat of original injury. This sometimes is explicable by the effects of phlebitis, but in such case deposits of pus take place in the viscera, synovial membranes, and other textures.

But after operations and bad mechanical injuries, like gun-shot wounds, many patients are cut off by visceral inflammation excited in another way, as particularly adverted to by Dupuytren, in his valuable remarks on gun-shot wounds. It is where from the reduced state of the patient we are led to allow him an abundant diet, with wine and other cordials, on the approach to convalescence or a cure. This sometimes creates a tendency to visceral congestion and inflammation, whereby the patient may be cut off just in the stage when the greatest hopes of a perfect cure are entertained. I offer this remark, however, in relation to our case, only as a conjecture; but were another case, resembling the foregoing, to come under my care, I should feel disposed to prescribe a smaller quantity of wine and a more limited diet. The subject, however, is a difficult one; for, on the one hand, unless the patient be duly supported, he sinks from debility; and on the other, if he be stimulated and fed too much, he dies of visceral inflammation.

CASE II. — *Penetration of the Skull and Membrane of the Brain by a Nail.—Suppuration under the Bone.—Trephine.*

Frederick Rudd, æt. 12, admitted March 14, 1839. About three weeks prior to this date, a door fell on his head, and a nail which projected from it penetrated through the right parietal eminence. He was not completely stunned by the blow, merely experiencing a little giddiness. Around the wound it seems that an effusion of blood under the scalp ensued, producing a swelling of about the size of a pigeon's egg. The hair was cut off the part, a leech was applied, by the direction of the practitioner first called in, and some aperient medicine given. For ten days after this he appeared to be well, playing and taking his food as usual.

About the eleventh day after the accident he began to lose his appetite, complained of pain in his head, and was sick. These were the first symptoms of mischief within the cranium. On the sixteenth day he became delirious; but this state subsided after the administration of a dose of jalap.

On his admission into the hospital, there was a small wound over the most prominent part of the parietal bone, of a size just sufficient to admit a quill. Around this the integuments were somewhat swollen and puffy, and from the wound itself some fœtid purulent matter exuded. It was found that a probe could be passed through the aperture in the skull, so as to touch the dura mater. Pulse 100; tongue white; skin hot; pupils dilated. Some stupor and drowsiness, but the intellects, in other respects, little affected. Frequent vomiting of bilious matter. Severe pain in the right side of the head, and across the forehead.

Three grs. of calomel every six hours. Scalp to be shaved, and evaporating lotion applied.

1 o'clock.—As the symptoms continued, and they indicated suppuration under the parietal bone, I made a crucial incision; and the flaps or angles were reflected, together with the pericranium. Some free hæmorrhage followed, and nearly half a pint of blood was lost. A small oval aperture in the prominent part of the parietal bone was thus brought into view; and I noticed that some fœtid matter lay on the outside of the bone. A portion of the parietal bone, of the size of a shilling, was sawn out with the trephine, so as to expose the dura mater, which had a darkish colour, was thickened, and covered with a layer of purulent matter, which was sponged away. There was also some pus adhering to the inner table of the circle of bone taken out. Pus was also noticed to issue out of the small aperture made by the nail in the dura mater. This I did not see myself; but it is not improbable that pus lay under this part of the dura mater, because the pulsatory movements of the brain were not perceptible within the perforation made with the trephine.

Cold evaporating lotion applied, and a saline antimonial mixture ordered, with Calomel gr. iij. every six hours.

Without entering into further details, I may state, that, with the exception of a slight degree of diplopia, and a little sickness occasionally taking place after meals, and excited probably by the tartarized antimony, this case went on most favourably, and the boy has since been discharged perfectly cured, and with his vision in every respect right again.

REMARKS.—It is an universally approved maxim in surgery, that whenever purulent matter lies close upon, or compresses, or disorders the functions of an important organ, a free outlet for such matter should be made without delay. The febrile symptoms—the headache, stupor, and dilated pupils—the puffy swelling of the scalp—the manner in which the skull had been struck and perforated by the nail—the probability even that the inner table might be splintered—all these

considerations led me to believe that suppuration of the dura mater had occurred, and that, unless a free outlet for the matter was promptly made, the boy would have little or no chance of recovery.

Here I deviated from the rule which is always inculcated in my lectures, that the trephine cannot often be applied with benefit while the patient retains the power of voluntary motion—retains his intellectual faculties—and is not afflicted with urgent symptoms of pressure. But exceptions to this maxim are recognized; and one of these is the case of suppuration of the membranes of the brain. You may also be justified in trephining what is termed a punctured fracture, to the nature of which this accident approximated, because you will find, though it did not happen in this instance, that, in the generality of cases, the inner table is splintered and depressed, and the early removal of such splinters is the best way of preventing dangerous consequences.

Dislocation of the Head of the Femur, from Disease of the Hip-joint.

Henry Warburton, æt. 15, admitted on the 21st of January—an emaciated boy, of hectic appearance. About five weeks before this period, he met with a fall, to which he imputed the origin of his complaint.

On his entrance into the hospital, the limb was about two inches shorter than the other, and the toes and knee were inverted, with the head of the femur lying on the dorsum of the ileum. He laboured under hectic fever, and had profuse nocturnal perspirations. The disease began with severe pain in the knee, as well as the hip.

A few days after his admission, an abscess was perceptible around the joint. I punctured this collection of pus, and let out a quantity of fœtid bloody matter, and from the opening thus made a copious discharge continued so long as the boy lived. Notwithstanding the administration of tonics, and the allowance of a generous diet, with porter, &c., he sunk, as had been anticipated; his death taking place on the 11th of March.

In the *post-mortem* examination, the head of the femur was found on the dorsum of the ilium, directly above the acetabulum, and on the upper border of the sciatic notch, in the centre of a vast abscess, which extended through this notch into the lower pelvis. Here the pus was shut out from the peritoneal cavity by the obturator fascia and peritoneum. In front, the abscess had passed upwards under the psoas and iliac muscles, so as to occupy the iliac fossa, but without communicating with that part of the abscess already described, and which extended into the pelvis through the sciatic notch. The brim of the acetabulum was obliterated, and the cavity itself filled up partly with a fungoid mass, and partly with firm coagulating lymph. The brim of the acetabulum was rough and gritty, and the os ilium above the acetabulum destitute of periosteum. The head of the femur had lost most of its cartilaginous investment, and was carious and irregular at various points.

WESTMINSTER MEDICAL SOCIETY,

Saturday, April 27, 1839.

W. D. Chowne, Esq. M.D. in the Chair.

Financial matters.—Destruction of the Cornea in Small-pox.—Poisoning from drinking an excessive quantity of Gin.

This being the last meeting for this session, arrangements were made for collecting the subscriptions, which, according to the recent law, would be due from every member who was desirous of not detaching himself from the society. Several gentlemen paid up their subscriptions at once, and Dr. James Johnson made, in addition, a present of ten guineas to the treasury. It is earnestly requested by the committee that members would, as soon as possible, signify to either of the presidents (Dr. Chowne or Mr. Thomson) their adhesion to the society, and at the same time forward their annual rent, which should be paid in advance.

Power has been given to the committee to seek for a more eligible place of meeting for the next season, so that the comfort of the members may be well attended to, which was an impracticable task at the Hunterian Museum.

Mr. Marson now read an excellent paper on the cause of the destruction of the cornea which occurs after small-pox, which we gave entire in the pages of the Medical Gazette last week. He satisfactorily confuted the common error that the destruction is due to the occurrence of a pustule on the cornea; and proved, we think, unanswerably, that the disease originates in the cellular tissue which unites the several laminæ of this tunic, and which, as it possesses many of the same qualities, and performs the same functions, as the same tissue in other parts of the system, may justly be considered as liable to the same maladies.

Dr. Chowne finally related the particulars of an interesting case of poisoning from gin. A young boy being left alone

in a room, swallowed in the course of half an hour the contents of a stone bottle, containing about a pint and a half of this spirit. In about a couple of hours he was perfectly comatose, the pupils were contracted and insensible, and the expression of countenance perfectly stolid. The limbs were completely inert, the pulse slow, and the respiration about twelve per minute. Ammoniacal stimuli were administered, and in a few hours the expression of face became more intelligent, but consciousness was not restored, and the temperature of the surface remained low. The respiration became quicker, and the pulse rather more powerful. After sixty-three hours he died. The body was carefully examined. In the brain the veins were rather turgid, and the pia mater was marked with opaque spots. The choroid plexus also was injected. Nothing remarkable was detected in the other parts of the encephalon.

In the thorax there was nothing worthy of note, except an effusion of frothy mucus into the air-passages of the lungs. The heart was quite normal. In the abdomen and pelvis, no appearance could be detected that was worthy the attention of the medical jurist. Dr. Chowne promised to publish the case.

Dr. James Johnson stated, that the symptoms detailed by Dr. Chowne, as well as the post-mortem appearances, exactly corresponded with the symptoms and appearances produced in animals by division of the pneumo-gastric nerves.

Mr. Snow related the particulars of one or two experiments on dogs and cats, which tended to corroborate the opinion of Dr. James Johnson. After the discussion, the society concluded its session. The reporter cannot close his remarks without expressing how much pleasure and instruction he has derived from the discussions carried on in this society during the present session, and from no one of which has he been absent; as well as avowing the hope that he shall be enabled to continue his agreeable task next year.

IDIOS.

DR. CORRIGAN.

DR. CORRIGAN has been appointed physician to his Excellency Lord Ebrington.

MR. S. COOPER AND MR. LISTON.

WE have received from both the gentlemen above named, copies of a correspondence which has passed between them. Mr. Cooper's came first to hand, and we have given directions for placing it in the *extra limites* department, not wishing it to interfere with the ordinary contents of the number.

COLLEGE OF SURGEONS.

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS.

March, 1839.

J. D. Nelson, Spring Park, Rathfarnham, Dublin.—J. Wase, Woodbridge.—F. M. Williams, Gray's Inn Road.—W. P. Brookes, Tewkesbury.—R. Stewart, Clogher, Tyrone.—E. L. Humphries, Stamford Street.—W. G. Shepherd, Sherborne.—S. W. Rayne, Newcastle-upon-Tyne.—J. Greenwood, Manchester.—H. C. Reade, Wexford.—J. Campbell, Looe, Cornwall.—H. Elliot, Durham.—E. H. Butler, Ingatestone.—G. B. Denton, Park Village, St. Pancras.—S. Boyd, Edinburgh.—R. K. Richmond, Cheadle.—J. S. Gissing, Woodbury.—J. Anderson, Richmond, Surrey.—J. Wilkins, Devonport.—G. Stevenson, Manchester.—G. Stevenson, Manchester.—G. M'Donnell, Shanagolden.—John R. Rice, Army.—S. H. Wraith, Blackburn.—J. C. Chappell, George Street, Hanover Square.—F. L. Malton, Seymour Street, Portman Square.—W. R. Gerrard, E. I.—J. Wiltshire, Epsom.—J. Slater, Halifax, Yorkshire.—M. Brumell, Morpeth.—J. David, Swansea, Glamorganshire.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *May* 7, 1839.

Abscess	1	Inflammation	9
Age and Debility	26	Bowels & Stomach	4
Apoplexy	3	Brain	5
Asthma	6	Lungs and Pleura	5
Childbirth	3	Insanity	1
Consumption	52	Liver, diseased	2
Convulsions	23	Measles	9
Dentition	7	Mortification	2
Diarrhœa	1	Small-pox	2
Dropsy	10	Sore Throat and Quinsey	1
Dropsy in the Brain	3	Spasms	1
Fever	10	Stone & Gravel	1
Fever, Scarlet	3	Thrush	1
Fever, Typhus	2	Unknown Causes	59
Fistula	1		
Heart, diseased	3	Casualties	5
Hooping Cough	5		

Increase of Burials, as compared with the preceding week . . . 93

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

May.	THERMOMETER.	BAROMETER.
Thursday . 2	from 42 to 71	29·90 to 29·93
Friday . . 3	42 67	29 93 29·90
Saturday . 4	40 66	29·83 29 65
Sunday . . 5	51 68	29 63 29·72
Monday . . 6	44 65	29 83 29 94
Tuesday . . 7	41 65	29·97 29·93
Wednesday 8	40 72	29 85 29·82

Prevailing wind, N.E.

Except the 2d and evening of the 8th, generally clear.

From about half-past seven in the evening of the 8th till about midnight, a terrific thunderstorm, accompanied by the most vivid lightning and heavy rain; from midnight till about two in the morning of the 9th, distant thunder and lightning; thunder also on the afternoon of the 2d.

Rain fallen, ·5125 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

(EXTRA LIMITES.)

No. I.

To the Editor of the Medical Gazette.

Sir,

The following correspondence has passed between Mr. Liston and myself, respecting the contents of a letter of mine in your last number. In addition, it is to be observed, that the editor of the Lancet, in his number of the 4th instant, has subjoined to Mr. George's candid and honourable letter, a shuffling note, in which he virtually admits, that the trickish heading of the article, and also the "interpolations," were introduced by an individual hired by and acting under him. It follows, then, that Mr. Liston is also absolved, by the confession of the guilty party himself, from all share in this disgraceful transaction. Whether this slanderous editor actually introduced the false heading and interpolations himself, or suffered them to be introduced by the reporter whom he pays (not Mr. Borthwick be it remarked) is a point which the profession, who already know his editorial transgressions well, will not deem an inquiry worth pursuing.

In fairness to Mr. Borthwick, I have enclosed his letter to me.—I am, sir,

Your obedient Servant,

Samuel Cooper.

Woburn Place,
May 7th, 1839.

P. S.—You will oblige me much by letting these documents appear in the next number of your valuable journal.

No. II.

12, Old Burlington Street,
May 4th, 1839.

Sir,—I find in the Medical Gazette of this day a letter bearing your signature, and addressed to me.

The appearance of this letter, after the conversation which I had with you on Monday last, cannot but surprise me. There must have been some mistake on your part as to what Mr. Borthwick said in regard to the notes of cases. He copied the one in question, and many others, for my private use and for my clinical lectures, and this day's number of the journal which contained the original report publishes my disavowal of any connexion with it.

With this explanation, and the most positive contradiction of the allegations contained in your letter in the Medical Gazette, I trust you will see that it is due more to *your* character than to *mine*, that you should withdraw your charges, and express your regret for having made them.—I have the honour to be, sir,

Your most obedient servant,

Robert Liston.

Samuel Cooper, Esq.

No. III.

Woburn Place, May 6th, 1839.

Dear Sir,—On my return to town this morning, I found your letter of the 4th instant.

After the explanations which your letter contains, and your positive disavowal of all connexion with the article inserted in the Lancet of April 20th, I fully acquit you of all participation in the transaction which I complained of in my letter to the Editor of the Medical Gazette, dated the 27th of April. I cannot, hesitate, therefore, one moment in the expression of my regret at the insertion of my letter in that journal, so far as you are concerned. I regret, too, that the explanation did not take place earlier, which would have prevented me from bringing the matter before the public.—I am, dear sir,

Yours very truly,

Samuel Cooper.

To Robert Liston, Esq.

P.S.—Mr. Borthwick wrote to me on the 2d of May, to say that the case of John Fagan, which he transmitted to you, and which he copied from the hospital case-book (perhaps with some "verbal alterations"), did not contain any allusion to me.

No. IV.

12, Chadwell Street, Myddleton Square,
May 2, 1839.

Sir,—Understanding that some one has been so obliging as to inform you that I was the author of the scurrilous paragraph referring to you, in the Lancet of 20th April, I feel bound, out of justice to myself, to address you upon the subject.

In the first place, I distinctly and unhesitatingly deny that I either inserted, or was in any way party to, the insertion of the sentence commencing with the words, "It is strange," &c. and terminating with, "Oh, sir! Mr. Cooper put that in," occurring in the second column of page 160 of that number of the Lancet. It is quite true that I reported the case in which that statement occurs; but the paragraph alluded to is a gross interpolation. I copied the case, as I am in the habit of doing, from the case-book; and though I often make verbal alterations, I can assure you I never travel out of my way to introduce extraneous matter, for the purpose of maliciously and falsely slandering the character of any individual, far less one of the professors under whom I have the honour to study.

And now, sir, in the second place, I must trouble you with a few cursory remarks on the conduct of the gentleman (whoever he be) who was so kind as either directly to state, or indirectly insinuate to you, that I was the author of the impudent and barefaced lie; for though the words, as reported, are very similar to those made use of by the patient on the operating table, still it must be evident to all, that by omitting the explanation which he appended, that "it was not you that he meant," — it was the unequivocal intention of whoever introduced the paragraph, to mislead the public; and is, therefore, as much a lie *morally*, as if an absolute false *verbal* statement had been made.

If, sir, that gentleman, like the great proportion of the students at the hospital, only suspected, from a vague report, that I was the author of J. F.'s case, and, without taking the trouble of inquiring how far that report was correct, made a statement to you, tending to injure a fellow student in your eyes; then, to say the least, he has been guilty of a very unpardonable indiscretion.

But if, again, sir, he knew that *positively* I was the author, as he could only come at that *information* by having heard me acknowledge myself so, which I did several times, each time, however, stating clearly, I neither introduced nor knew any thing of the introduction of the offensive paragraph; then, sir, by pursuing the course he has done, by keeping back a most essential part of his information, and wilfully misleading you, he, too, has been guilty of an action as mean as it is detestable, and which he might well blush to own, if, indeed, that mark of not altogether extinguished honesty has not long been a stranger to his face.

Expressing my sincere regret that any circumstances should have arisen, calling for such a letter from me to you, sir, I have the honour to remain, sir,

Yours respectfully,
Wm. Thos. Borthwick.

To Samuel Cooper, Esq.

In my answer I assured Mr. Borthwick that nobody had insinuated to me anything against his conduct in this affair; nor did I ever entertain any doubt about his upright principles. Mr. Borthwick's letter is important, as justifying, at all events, some parts of my letter of May 4, inserted in this journal. This last letter (containing the grounds of my suspicion against one party or another, and no calumny whatsoever), before being dispatched for publication, was read to Mr. Liston, in the presence of Dr. Carswell and the Secretary of the Hospital, in the afternoon of the 29th ultimo, in order to afford him the opportunity of explanation; but he refused to do so, and contented himself with saying that he had had nothing to do with the affair.

S. C.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 18, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Of Urinary Gravel and Calculi.

The ammonio-phosphate of magnesia, or triple calculus.—This calculus—of which I here present you several varieties, and of which you will find a very good representation in plate viii. fig. 5, of Dr. Marcet's work—is commonly of a white colour; surface uneven, and covered with minute shining crystals. It is not like the foregoing, of a laminated texture; but it is easily broken and pulverizable. In a few instances it has been found very hard and compact; and, if broken, it exhibits a crystalline texture, the crystals being interspersed between the layers of other calculous matter; and it is often more or less transparent*. The form of the crystals, according to Dr. Wollaston—to whom we are so much indebted for what we know of calculi—is that of a short trilateral prism, having one a right angle, and the other two equal, terminated by a pyramid of three or six sides. Calculi consisting wholly of the triple phosphate are extremely rare; but concretions in which this greatly predominates occur frequently.

Chemical characters. — Before the blowpipe this calculus first becomes slightly discoloured, and gives off the smell of ammonia (still more sensibly if a little potass or soda be previously added), owing to the disengagement and volatilization of this principle. The fragment at the same time diminishes in size, and ultimately fuses or melts into a sort of whitish or cloud-like enamel. The fused mass is the phosphate of magnesia, with excess of phosphoric acid, owing to its being deprived of the ammonia; and it is to the excess of acid that the fusibility is to be attributed. Berzelius recommends the following blowpipe analysis for the dry or solid phosphate, with the view of determining the presence of phosphoric acid, and which I have very frequently practised in the last-mentioned calculus, the one immediately under consideration, and the next for consideration; and which I shall now proceed to explain and exemplify.

The assay is to be fused upon charcoal, by mixing it with boracic acid and fusing it. When the fusion is complete, we plunge the point of a fine steel wire through the fused bead, and longer than the diameter, so that a portion of the wire shall project on either side of the globule. The globule—as you thus see it—is withdrawn on the wire, and now strongly heated in a good reducing flame—thus. The iron becomes oxidated at the expense of the phosphoric acid, and borate of protoxide of iron and phospuret of iron are the results of the decomposition. The phosphuret fuses at a pretty high temperature, and the assay, which at first, as you saw, was spread out over the whole length of the wire, after heating has resumed the globular form. As the globule cools, an appearance of ignition may be generally observed near its base, which arises from the crystallization of the phosphuret of iron. The globule is now to be separated from the projecting wire, wrapt up in paper, and struck gently with a hammer

* Prout on the Urinary Organs, p. 90.

on the anvil, by which the phosphuret of iron is separated, and appears in the form of a brilliant metallic globule, attractable by the magnet—as you see; and so brittle that it springs to pieces when struck with a smart blow of the hammer—thus. The fracture, as you observe, is steel-coloured. The brittleness depends on the proportion of the iron; sometimes it may be only a little flattened under the hammer. If the assay contain no phosphoric acid, the steel wire will burn only at the ends which project beyond the globule, preserving its brilliancy in the other parts. To insure success, also, the assay must contain rather more than five per cent. of phosphoric acid, as less than this proportion is insufficient to fuse a mass of iron as large as the experiment requires, to prove unequivocal; neither will it prove unequivocally the presence of phosphoric acid, if the assay contain arsenic, or sulphuric acid, or metallic oxides, as then we should obtain compounds of their bases with iron; and therefore the presence of substances capable of reduction by iron, and of fusion into a globule with it, would invalidate the test*.

If this calculus be heated with solution of caustic potass in a platinum or silver capsule, ammonia is disengaged, known by the odour. If this be performed in a glass tube, a slip of moistened turmeric paper is turned brown; or if reddened and moistened litmus paper be used, the blue colour of the litmus is restored by the escaping ammoniacal gas. This calculus also is readily dissolved by diluted acetic, hydrochloric, or nitric acids; and reprecipitable by ammonia without decomposition. These characters are quite sufficient to identify this calculus, and to determine its composition.

Calculus composed of a mixture of the two foregoing—the phosphate of lime and ammonio-phosphate of magnesia—or fusible calculus.—This calculus, frequently named the mixed phosphates, is whiter and more friable than any of the other species, sometimes resembling a mass of chalk, and leaving a white dust on the fingers. This species is not, generally speaking, laminated, and appears in the form of a spongy, friable, whitish mass, in which the laminated structure is not obvious; and a representation of which you may see in the seventh plate, fig. 2, of Dr. Marcet's work. It sometimes, however, readily separates into laminæ, the interstices of which are studded with sparkling crystals of the ammonio-phosphate of magnesia. That variety which is not laminated often attains a very large size, and then moulds itself to the contracted cavity of the bladder, terminating at its broader end in a kind of peduncle, corresponding to the neck of the bladder, as delineated in fig. 1, plate vii. of Marcet's work, as you see—a peculiarity of form which Dr. Marcet states he never observed in any of the other species of calculi. This kind of calculus occurs very frequently, and it often gives an external coating to lithic calculi, as you may observe here.

Chemical characters.—Before the blow-pipe this calculus readily melts, and the fusion is very easily effected, as you see in this instance. It readily dissolves in dilute hydrochloric acid. Its composition may be shown by various methods. If, for instance, it be pulverized, and then acted on by very dilute sulphuric acid, of specific gravity not exceeding 1020, the ammonio-phosphate of magnesia will be dissolved, and the phosphate of lime will remain behind, being scarcely acted upon by sulphuric acid of this tenuity. A preferable plan, however, is to digest the pulverized calculus in somewhat diluted acetic acid, the triple crystals will be dissolved, while the phosphate of lime will not be affected. The phosphate of lime, which is contaminated with a small proportion of lithic acid, may be separated from this impurity by dissolving it in a little diluted hydrochloric acid, which acts upon the phosphate, leaving a residue which consists of lithic acid. The calcareous phosphate may be recovered by saturating the hydrochloric acid by potass or soda, when the earthy salt will precipitate, and its characters may be determined, as has been already pointed out.

The ammonio-phosphate of magnesia may be precipitated from the acetic solution by carbonate of ammonia, and recognized by the properties forming a specific distinction. With respect to the lime, it may be separated by the plan formerly pointed out, of converting the phosphate into carbonate by boiling with carbonate of potass, and thus decomposing it; the resulting carbonate of lime may be readily distinguished. Or the lime may be precipitated from the muriatic solution of the phosphate by adding oxalate of ammonia, the lime precipitates as an insoluble oxalate, which may afterwards be reduced to the caustic state by heat, as already explained.

* Berzelius on the Blow-pipe, translated by Children. If phosphate of lime be decomposed by boiling with carbonate of potass, and the resulting phosphate of potass be decomposed by nitrate or acetate of lead, a phosphate of lead, which is wholly insoluble, will precipitate; and this presents specific characters. Thus it is almost wholly insoluble in free acetic acid—as you see. If the precipitated phosphate of lead be dried, and then fused upon charcoal in the outer flame of the blowpipe, the fused mass becomes distinctly crystalline upon cooling, as you can now see in the experiment I have just performed. For this test we are also indebted to Berzelius. (*Anwendung des Löthrois*).

The magnesia may also be obtained by various means. For instance, the calculus may be dissolved in hydrochloric acid : the lime may be precipitated by sulphuric acid, which, if in excess, will retain the magnesia in solution; from which, after being filtered, the magnesia may be precipitated by carbonate of soda, when it may be easily recognised by its various properties. There is no difficulty in proving the presence of the ammonia, for if heated with potass or soda, ammonia is disengaged, and manifested by its pungent odour and alkaline reaction. We may thus prove the basic composition of this substance.

With respect to the phosphoric acid, this may be detected, as already pointed out, by decomposing the phosphates by boiling with carbonate of potass, and testing the resulting phosphate of potass by the nitrate of silver, as before pointed out. Dr. Marcet observes:—The presence of phosphoric acid may also be shewn by reducing it to the concrete state by the blowpipe, on a slip of laminated platina ; the acid, when thus urged, communicating to the flame a peculiar green tinge*. Perhaps the better mode for the oxalate of lime, and the earthy phosphates, the best mode of identifying the acids would be to decompose them by an alkaline carbonate; treat the resulting alkaline, oxalate, or phosphate, as the case may be, with a neutral solution of nitrate or acetate of lead; collect the precipitated oxalate or phosphate of lead, wash, and finally suspend in distilled water, and pass through hydrosulphuric acid gas: sulphuret of lead will be precipitated, and the acids liberated will be found dissolved in the water, and in a state of very great purity†; when they can be recognized very satisfactorily by their distinctive properties. In the tubes and jars which I hand round in this small tray, you have the results of all the various stages of the different processes; and by referring to the letters and numbers in the manuscript key, you will see what particular stage of the operation each exemplifies.

* On Calculous Disorders, p. 6.

† It appears to me, that the process adopted by the College for the formation of phosphorin, is both troublesome and complicated, and that the following, as less so, and also less expensive, might be advantageously substituted:—Act upon calcined bones by diluted sulphuric acid ; by which we shall have sulphate of lime precipitated, and superphosphate of lime in solution : precipitate the phosphoric acid by acetate or carbonate of lead. The phosphate of lead, suspended in distilled water, may be decomposed by hydrosulphuric acid gas, and the liberated phosphoric acid concentrated by distillation or evaporation, and brought to the required strength by water. Or the required concentration may be obtained at the first operation, by suspending and decomposing the metallic phosphate in the equivalent quantity of water ; filtering and boiling, to expel the excess of hydrosulphuric acid gas.

The next two species are what have been termed compound calculi, from the nature of their composition. They comprehend the alternating and the mixed species.

Alternating calculus or compound calculus in distinct layers.—The composition of this calculus consists of some of the former species, disposed in layers, and around a common nucleus. Thus we sometimes find a lithic nucleus surrounded by an oxalate of lime deposit, or the lithic may alternate with the phosphates. In some cases the mulberry alternates with the phosphates, and in some cases we find three or even four species of calculi deposited in distinct concentric laminæ. Here are some examples; and in these figures of the sixth and seventh plates of Dr. Marcet's work, there are good delineations of these different varieties; and in this figure (plate viii.) we have a delineation of a calculus consisting of four distinct species, disposed in successive or alternate layers: for instance, in the centre is the lithic acid ; next to this, pure striated phosphate of lime; external to the latter, is a mulberry or oxalate of lime deposit; and external to all, is a crust of the fusible calculus enveloping the whole concretion. From these facts, it must be evident that the characters of the compound calculi will vary with the nature and extent of their composition. Mostly, however, they consist internally of a lithic or mulberry nucleus, and an external crust of the fusible phosphates; and, indeed, the fusible phosphates, in most cases, seem to constitute the ultimate result of all the varieties of the calculous diathesis.

Chemical characters. —With respect to these, it is evident they also will vary with the composition. When sawn through, with a round-headed or a broad-edged file (varieties of which I here shew you), a portion may be thrown down, pulverized from any portion internal or external, or of any intermediate portion, and then examined by the means already described, and the composition determined.

Mixed calculi, or calculi with their ingredients intimately intermixed.—Calculi of the above denomination, if *abstractedly* considered, would comprehend almost every species, for there are but few urinary concretions which do not give evidences of the principal components of urinary calculi. Indeed there are very few that do not, upon examination, afford some traces of lithic acid and of the phosphates. But the species which we are now about to consider have not the individual species in distinct layers, as those we have just examined, but they are found intimately intermixed, as if all thrown down at

once, from a general solution in an amorphous state, by the simultaneous action of the various re-agents, and then concreted into a calculous mass. "Mixed calculi," says Prout, "consist of an intimate mixture of any two or more of the preceding species; but generally of a mixture of the lithate of ammonia and the phosphates." Dr. Marcet confines the term compound calculi, with their ingredients intimately mixed, to "those substances alone which have no characteristic feature by which they may be considered as belonging to any of the other classes." The colour of such calculi is indeterminate, for it varies with the composition. Their figure is for the most part irregular, nor are they distinctly stratified, and they possess considerable hardness. They are very seldom of large size, and fortunately are very rare.

Chemical characters.—These calculi are chemically characterized by the confused or rather ambiguous results derived from some of the preceding modes of examination. These, however, with the general appearance, will enable us to form an opinion as to the mixed nature of the composition. Suspecting, then, a calculus to consist of the mixed ingredients, we must proceed to separate the component principles, and examine them in detail. First, then, we must finely pulverize a portion of the calculus, and subject it to the action of hydrochloric acid: this will dissolve the phosphates, leaving behind the lithic acid; or, perhaps, the better plan would be, digestion in dilute acetic acetic acid, by which we should remove the triple crystals, leaving the phosphate of lime with the lithic acid. Diluted hydrochloric acid will now dissolve the phosphate of lime, and leave the lithic acid behind, which may be dissolved in caustic potass after the other principles have been removed. To determine the presence of lithate of ammonia, we have merely to digest a portion of the finely pulverized calculus in a solution of carbonate of potass, when we shall obtain lithate of potass and carbonate of ammonia. From the solution the lithic acid may be precipitated by hydrochloric or acetic acid, and upon the evaporation of the mother water, we shall obtain hydrochlorate or acetate of ammonia. Here I present you an amorphous precipitate, obtained by acting on different urines by the various reagents, collecting the precipitates and mixing them intimately by agitating them altogether, so as to suspend them in distilled water, allowing them to subside, and collecting the sediment. By acting on this first with *carbonate* of potass, I removed the lithate of ammonia which you see here. By *caustic* potass the free lithic acid was next removed—a portion of which you see here; and by diluted acetic acid the ammonio-phosphate of magnesia was separated; we then left a mixture of phosphate and of oxalate of lime. These may be separated by tolerably concentrated acetic acid, which dissolves the phosphate, but leaves the oxalate unacted upon. Thus it is that every principle of a urinary calculus may be readily identified and determined by a little industry and adaptation of the different modes of investigation to the objects we have in view.

Cystic oxide calculus.—This calculus is extremely rare, and we are indebted to Dr. Wollaston for calling our attention to it as a peculiar species. His paper was published in the Philosophical Transactions for 1810. The specimen which first came under his observation he received from Dr. Reeve, of Norwich, and shortly after he discovered another specimen in the collection at Guy's Hospital*.

In external appearance, Dr. Wollaston states, "these calculi resemble more closely the ammonio-phosphate of magnesia than any other sort; but they are more compact, and do not consist of distinct laminæ, but appear as one mass confusedly crystallized throughout its substance. They have a yellowish semitransparency, and a peculiar glistening lustre, like that of a body having a high refractive density." This calculus is generally comparatively small: those which I saw at Guy's did not any of them surpass the medium size, and many of them were still smaller. I here exhibit half of a cystic oxide calculus, which I had not only the good fortune to meet with, but also an opportunity of frequently examining the urine of the individual who passed it. You see that it presents characters closely resembling those specified. In the present instance, you see it is of a dull whitish colour; of a confusedly crystalline appearance, and, in very small fragments, it is to a certain extent transparent. Sawn through, it has the consistence of wax. Thus, in sawing through the specimen of which I shew you, the teeth of the saw became clogged up, as it were, with wax. This calculus also is frequently studded externally with crystals of the triple phosphate, for which the calculus itself may be readily mistaken, and of which, at first, I presumed the present specimen to be a modification, till a chemical investigation awakened my attention to its singular peculiarities.

Chemical characters.—Before the blowpipe, this calculus gives off a very pecu-

* There is a very beautiful and valuable collection of calculi, and excellently arranged, at Guy's, and to which Mr. Harrison very politely has allowed me access.

liar and characteristic odour, and quite different from that of lithic acid; nor does it at any period resemble that of prussic acid. I now heat a small portion upon a slip of platinum; and you now have an opportunity of examining and recognising this odour. It has something of a fœtid animal odour, leaving a whitish ash, which is not alkaline; and the characters already enumerated would be in themselves quite sufficient to decide the nature of this peculiar substance. However, from its very ready solubility in both acids and alkalies, it was named "*oxide*," by its discoverer, Dr. Wollaston. As you see, it dissolves with equal readiness in the hydrochloric and nitric acids, and in solutions of potass, of soda, or of ammonia. Almost all the acids act upon it; the few which exert no agency, or at least very little, upon it, are from their limited number easily remembered. They are principally the acetic, citric, tartaric acids, and sesquicarbonate of ammonia. Therefore to recover it from its acidulous solutions we add a solution of sesquicarbonate of ammonia in sufficient proportion to saturate the acid, when it precipitates—as you see in the present instance. To obtain it, on the other hand, from its alkaline solutions, we use the acetic, citric, or tartaric acids—and in this example you see it set free and precipitated by the acetic acid.

Its solvents, indeed, are very numerous—as lime-water, barytic-water, and even the carbonates of potass and soda. Its solutions in the acids, if concentrated and evaporated, crystallize in slender spiculæ, running in radii, as it were, from a centre, something like what I here exhibit to you, and which readily dissolve again in water. The compounds which it forms with alkalies, on the contrary, crystallize in small granular crystals, such as you see in this glass capsule*. From its disposition to so readily combine with acids and alkalies, Dr. Wollaston named this substance, as already stated, an oxide; and as in the only two instances in which it had then been presented to his notice it had been taken from the bladder, he named it "cystic oxide." But although instances of the occurrence of this calculus are extremely rare in comparison with most of the other kinds, yet several have been met with and described. Soon after Wollaston's discovery, Dr. Henry met with two in a collection of his own. Dr. Marcet met with three, the histories of which are detailed at length in his work on Calculous Disorders, to which I refer you. Dr. Prout also mentions one or two instances; and I have given the history of the individual who passed the calculus which I have just shewn you. From all these, then, it would appear that this calculus is, like most others, of renal origin, and that the epithet "cystic" is so far a misnomer. But perhaps it is scarcely worth while to make any innovation upon the name which its discoverer first gave to it, even though that name be derived from a misconception of the origin of this substance; therefore we shall continue to designate it by the name originally given to it*.

* Whether these crystals be formed from solutions in potass or soda, they should be kept hermetically sealed if we wish to preserve them—in the case of the potass, to prevent deliquescence, by the attraction of moisture from the atmosphere; in the case of soda, to prevent efflorescence, by parting with the water of crystallization.

* Some of the foreign writers have named this substance "cystine;" but this, as derived from the term cystic, appears equally objectionable. Dr. Marcet proposed to call it "renal oxide," and which is certainly the most appropriate, allowing the term oxide to be unobjectionable, which, however, perhaps is not altogether the case. Perhaps "nephrine" would be the least objectionable name.

LECTURES

ON THE

VENEREAL DISEASE,

Delivered at the Aldersgate School of Medicine, March 1839,

By F. C. Skey, F.R.S. &c.

Lecture II.

ON THE COMMON VENEREAL SORE.

Summary of the doctrines inculcated in the previous lecture—Characters and progress of the common venerola—Its degree of elevation dependent on its situation—Probable identity of its poison with that of gonorrhœa—The venerolic bubo — Treatment of venerola——Mercury unnecessary in the treatment of venerola—The venerola superficialis and indurata—Liability of the latter to slough—Treatment of sloughing sores—Summary.

In the last lecture, I introduced to your notice some preliminary questions of great interest, relative to the venereal disease. To two of these I wish now to return. The first is the immediate source of contamination; the second is the prevailing error on the subject of the prominent character of the venereal sore.

With respect to the former question, I told you that the evidence is incontrovertible — 1st. That the precise form of venereal diseases, be they gonorrhœal or ulcerative, is not determined by the poison of the party infecting. 2dly. That a poison of any variety may be developed in an apparently healthy person, without

the presence of disease of any kind in the party generating it (unless we are warranted in applying the term to the natural secretion of a part in excess; strictly speaking, possibly we are so warranted), at all events where there is no reason to suspect the presence of the disease given. 3dly. That certain forms of the so-called venereal disease are spontaneous, or self-generative, and arise in the person affected entirely independent of sexual intercourse.

A well-known case is mentioned by Dr. Fergusson, when speaking of the venereal diseases of Portugal, of a danzatrice belonging to the Opera at Lisbon, who indulged a penchant for the British officers at the commencement of the Peninsular war. Many of them were severely and incurably diseased, while she pursued her nightly career as a dancer, apparently undisturbed by disease of any kind.

Mr. Evans obtained the opportunity of examining a girl who had given three forms of disease to three different persons, and the girl had nothing beyond "slight leucorrhœa." As regards my own experience, I have seen so many examples of disease arising where I have the strongest reason to believe disease did not exist, that I cannot hesitate to express my thorough conviction of this important truth. If, therefore, I find a disease produced which had no existence in the person producing it, whence does the poison emanate? Undoubtedly its elements lie dormant in the affected party or parties, by or between whom it is developed by sexual intercourse, and presenting a form probably determined by peculiar constitutional liabilities.

Observe the detail of the following case, which I quote from Mr. Abernethy's "Surgical Observations on Diseases resembling Syphilis," the prominent characters of which are, I really believe, of most frequent occurrence:—

"A gentleman was connected with a female who was kept by another gentleman, and derived from such connexion several very irritable and foul sores, which broke out on the prepuce, but which, however, had not the syphilitic characters. As neither the woman nor her keeper had any disease, he had no wish to take mercury, nor had I, being consulted on his case, any desire to recommend it to him. The sores did not heal until between two and three months, though a variety of applications were employed. He at length, however, became perfectly well; and I cautioned him not to be again connected with the same woman. But his inclination got the better of his prudence, and another crop of sores, equally irritable, foul, and tedious, took place in consequence of a second connexion. These sores were treated in the same manner as before, and slowly healed. After some lapse of time he again erred in the same manner, and again received the same punishment. He had no constitutional disease from these sores."

Can you imagine this woman the subject of disease all this time? Impossible. Doubtless we are occasionally imposed upon by disingenuous persons, who, having incautiously committed themselves to falsehood, in order to conceal one fault (with which, by the by, we, as medical men, have no concern), maintain it with a pertinacity dictated equally by knavery and folly; but this is by no means invariable, and, I believe, not even common. I find that good sense prevails in the majority of instances; and therefore I would never enter on the inquiry into such cases, with a dogged incredulity, receiving only such statements as suit our doctrines. I am more prone to doubt the doctrine, than throw a shade of doubt on the word of an apparently honest man, upon the exercise of whose honesty may possibly depend his welfare in future life.

Again, as regards the character of chancre, first described by Mr. Hunter, I have already stated that it is greatly at variance with a very large proportion of the venereal sores seen at the present day. You will see sores progressing through their various stages, without the presence even of tumefaction; some, again, attended by partial tumefaction, or even thickening, occurring late in their progress; while others, though rarely, are attended by positive thickening from the commencement, in which the ulcerative action is merely subsidiary and not primary.

These characters, however, are not invariable; they are not always clearly marked in private practice, and still less so in that of a public hospital; and after all, they form but general rules, which, though highly valuable, have many exceptions, owing probably to the blending or modification of the various forms of poison, or to peculiarities which are beyond our ken.

Before I conclude these observations, let me state to you what I understand by a venereal sore. Its definition holds no relation to its progress, and still less, were it possible, to its mode of cure. The definition Mr. Hunter and the surgeons of his day would have given is, a disease obtained by sexual intercourse, requiring mercury for its cure. Half a century, and their experience, have given us some insight into this subject; and this doctrine is, happily for society, now acknowledged to be fallacious. By a venereal sore or

venereal disease, I understand any disease indicating the presence of a poison obtained by sexual intercourse, or communicated by contact with an infected person.

Common primary Venereal Sore—the Venerola Vulgaris of Evans.

The common venereal sore appears from three to five days after connexion, appearing in the form of a pustule, preceded by itching. I shall employ the name given by Mr. Evans. Its progress is first destructive, and then reparative. It usually runs its course with great regularity, unless diverted by maltreatment, dissipation, or by depraved constitution.

It is purely and entirely a local sore, pursuing its career, when unmolested, till it accomplishes its own crisis, *producing no secondary eruptive affection whatever.*

In private practice you may occasionally meet with it in its first or pustular stage; in hospital practice, rarely or never. The pustule bursts, and its place is occupied by a small incrustation formed by the secretion, which, on separating, exposes an ulcer. This occupies from three to four days, when the ulcerative stage commences, at an early date of which our attention is first directed to the sore. Its characters are yet but imperfectly marked; but we can readily ascertain that it is destitute of thickening, by pressing it between the finger and thumb. Its form is generally circular, but that is no criterion. It is cup-shaped, and of a dirty brown or yellow colour, moist, secreting a puriform ichor.

This is the destructive or ulcerative stage, through which it progresses variably, from the tenth to the twentieth day, though I have known it to extend during a period of four months. It is during this stage that the common venerola exhibits the peculiar characters by which it may be generally known—viz. *that its edge rises above the surrounding surface*, in the form of a moderately well-defined ring, having, as Mr. Evans says, the appearance but not the reality of induration. If the sore progress favourably, the destructive stage ceases from about the fifteenth to the eighteenth day; granulations form at the bottom, which frequently rise above the level of the surrounding skin, or even of the edge of the sore, presenting the appearance of a fungus, and constituting the second, reparative, or granular stage. The granulations are now absorbed, and sinking below the surrounding level, the skin heals over them. This constitutes the third stage, or that of cicatrization.

Although the description given by Mr. Evans of the common venerolic sore, is excellent, yet I am inclined to think he has coloured it too highly. As far as I have observed, I do not think the elevated character so invariable an attendant upon it as to warrant the second term he applied to it, of "elevated ulcer;" unless, indeed, the name apply to the edge alone, which is much more uniformly raised around the surrounding level. This character, however, as Mr. E. has observed, depends greatly on position. The texture must be loose, and the surface void of pressure from contiguous surfaces.

Thus on the free edge of the prepuce, on its external surface, or on that of the penis generally, on the scrotum or thigh, the characters will be more distinctly marked, and the granulations will be more elevated than on the glans or inner preputial surface. Between the two latter, however, there is a marked difference; the sore on the glans being almost destitute of the elevated character.

That this form of reparative action is due to the structure of the part, may almost be inferred from the appearance of a sore involving at the same time the glans, fossa, and prepuce; which is elevated on the prepuce, ragged on the fossa, and excavated on the glans.

The poison of this sore is probably identical with that of gonorrhœa; the two diseases having many symptoms in common. 1st. Venerolæ are often the attendants on the latter stages of gonorrhœa, where they appear in the form of a crop of small ulcers on the margin of the prepuce or on its inner side, appearing not unlike a growth of soft warts. 2dly. It appears about the same date after intercourse, and pursues its career in about the same period. 3dly. And by far the most important feature of resemblance the two diseases present, is, *that they both exhaust their morbid actions, and reach their own crisis and cure, without the aid of positive treatment of any kind, and are followed, as regards gonorrhœa, rarely or never, and as regards the common venerola, positively never by secondary disease.* Mr. Abernethy was familiar with this sore, but that he was trammelled by the high authority of his idol, Mr. Hunter, there can be no doubt; and hence the greater merit of his essay on this subject. He states, that "a form of sore of the size of the finger-nail, that throws out new flesh rising above the surrounding skin, from which he never knew an example of secondary symptoms."

Do not, however, suppose that this description is applicable to every form of common venerola, the shades of difference between which are both great and numerous; for, as Mr. Wallace justly observes, "it is the progress and whole phenomena alone that can demonstrate its nature."

There is no disease that resembles it in the aggregate of its stages."

This variety is found to exist in a far greater degree in hospital, than in private practice—due, perhaps, to constitution, habits of intemperance, want of cleanliness, and to the early and injudicious resort to remedies recommended by incompetent and uneducated practitioners; among the foremost of which stands mercury.

The glans penis does not appear the soil on which the venerola flourishes in full vigour. It is cramped in its growth without being hastened in its progress, rarely acquiring so large a size as on the prepuce, penis, or scrotum; is more excavated throughout, and appears destitute of that reparative energy essential to the formation of the granular stage; and it always terminates by a loss of substance, in the form of a pock-like depression. Still, on the glans, it often attains a very considerable size. The same form of ulcer attacks the orifice of the urethra, where it is characterized by more than its usual degree of tumefaction, not amounting, however, to hardness, by more pain, and by a greater tendency to the formation of bubo.

Throughout the whole career of this common venerola, "the primary syphilis" of Mr. Wallace, there is found no trace of thickening, hardness, or induration. It may be occasionally attended by more or less tumefaction or soft thickening; but this is not common. Do not be misled on this point. We all understand what is meant by thickening, and on this head, I say, examine for yourselves.

With the exception of the indurated sore (I will not say the Hunterian sore, for I really do not know it, but I mean the hard syphilitic chancre)—there is no ulcer that usually pursues its course more steadily, when unmolested by interference, or diverted from its course by what we call treatment.

Bubo is an occasional, but by no means a frequent attendant on the common venerola; and it is worthy of observation, that the liability to bubo holds a relation, not so much to the activity of the sore, as to the constitutional health of the affected person. I need, then, hardly state, that this glandular enlargement of the groin is not the product of a poison absorbed into the circulation, but arises from what Mr. Hunter called "sympathy;" in reality, irritated absorbents, the result of common, not of specific irritation.

This bubo does not exist in the form of an enlargement of a single gland (a condition that characterizes another form of disease), but of gradually increasing tumefaction of the upper part of the groin, extending towards the ilium, from two to three inches in length, and of half the breadth; a tumefaction that involves not glandular texture merely, but a large proportion of cellular tissue, giving it the aspect of a slow phlegmon. It does not ordinarily suppurate, but subsides with the disease, unless the circulation have been positively and considerably reduced by treatment; under which circumstances, it may either remain in an unaltered state for several weeks, or terminate in slow and partial suppuration. These observations will apply precisely to the bubo of gonorrhœa, with which, as far as I have observed, it is identical in all its characters.

Treatment.—The treatment of venerola is most simple. The sore requires cleanliness, protection from violence, and moderate attention to the general functions of the system during the ulcerative stage. The local applications should be mild and unstimulating. Common spermaceti dressing is the best. If the sore be within the prepuce, linen may be substituted for lint, that its pressure may not cause irrition. It should be changed about three times in twenty-four hours, the sore being as frequently washed with warm water. All stimulating applications, whether black wash, zinc, copper, or other descriptions of ointment, should be carefully eschewed, being not merely unnecessary, but positively objectionable. Mr. Evans recommends the application of a weak solution of acetate of lead, and poultices, to sores on the outside of the penis or scrotum; in the latter recommendation I fully concur, inasmuch as a poultice is a soft, moist, and innocuous remedy, which protects the sore from external injury or violence. Should the granulations in the later stage rise considerably above the surrounding level, they may be reduced by the application of sulphate of copper, or of a solution of five grains of nitrate of silver to an ounce of water; but either of these remedies should be resorted to, and applied with care, their application being made as lightly as possible. The constitutional treatment is also abstinent. A mild aperient, followed by small inoffensive doses of antimony, if the sore be attended by heat of skin, and constipated bowels, is all, or nearly all, that is required. If unattended by these infrequent concomitants, I have been in the habit, for some years past, of treating such cases with bread-pill night and morning, and I am acquainted with no form of medicine which, as applied to the case before us, is both more efficient, and less objectionable.

Some years since, I was in consultation with an eminent surgeon on a case of venerola occurring in a hospital patient, to which my attention was directed, as to

a case of the true Hunterian chancre; he knowing that my interest had been excited by this subject. I smiled on seeing the "*true Hunterian*," and merely said, in the absence of the man, that I would, as a joke, lay him a wager that I would tell him, within a few days, how long the sore had existed, at what length of time it appeared after connexion, and, moreover, that I would undertake to cure the disease without the use of any description of medicine whatever; pledging myself, too, that no secondary eruption of any kind should follow the healing of the sore. All this I performed to the letter; and this feat, great as it may appear, requires no knowledge that a little common observation may not afford, in a comparatively short period of time.

This form of venereal sore requires watching, more especially in some depraved states of health; but you must be content to be a quiet inofficious looker-on —probably for weeks. It is always better to withhold your opinion of a case on a first visit, till you see the character of the sore more fully developed. On the second and third, you find the sore extending, and it both will and ought to extend; nor will it cease till it probably attain the size of a tamarind stone, or even something larger. You cannot arrest the ulcerative action but by one mode, and that I think objectionable. Stimulants will not arrest it; nor will mercury. Whatever be the change effected by tampering with the sore in the ulcerative stage, must be superadded to the allotted time for its cure.

The progress of the sore may not be interrupted merely, but entirely arrested, by escharotics, provided they be applied early in the ulcerative stage. This plan of treatment is adopted and recommended by Mr. Wallace, of Dublin, who resorts to it very generally, as the means of destroying a surface which seems to have the power of contaminating for a limited period contiguous parts. It is obvious, therefore, that it is applicable only to the first stage of ulceration; in which, if at all, it must be applied freely. Mr. W. employs the nitrate of silver, which should be rubbed carefully on every part of the ulcerated surface.

Instead of the nitrate of silver, I prefer nitric acid diluted with an equal quantity of water, which has this advantage, that being applied to a small surface, it diffuses itself immediately over the whole. This practice is applicable only to a small or early sore, and not to one advanced; for if resorted to in an advanced stage of ulceration, it will often prolong the evil it is intended to arrest. It is a form of treatment which you may resort to in cases of emergeney, where time is especially valuable. For example—a gentleman is leaving town on an excursion of pleasure, which it is impossible to postpone (matters of business are not generally so imperative); or he may be engaged to be married on a particular day—for these are emergencies, gentlemen, with which we have occasionally to contend. Here you had better resort to the more direct line of cure, which is rarely followed by evil consequences, provided, as I have before stated, the ulcerative stage be not advanced.

As a general rule, there is no necessity for the administration of mercury, in any form or quantity. At the same time you need not forswear its use. In moderate quantities, it is inoffensive and unobjectionable, and may contribute to the healthy progress of the sore. There is a phrase almost universally applied to these minor doses of mercury, which I confess I do not understand—I mean the term "alterative doses." It appears to me that if the term alterative be applicable to minor and limited doses, *à fortiori*, it must be still more applicable to large. The object and aim in the administration of all physic is "alterative," and why may we not have local as well as constitutional "alteratives?"

It is not to the dose that I object, but to the name. You will often puzzle an unthinking man, if you ask what he means by the term "alterative." He will generally tell you that by it the secretions are altered. If you venture to ask what he means by "the secretions," he will answer, and perhaps wisely, that he does not altogether know, but that the medicine does the patient good, and that he strongly recommends persistence in the use of it. This is honest and sensible, and I confess I am often of this gentleman's opinion, fancying, as I do, that we are not always quite so knowing on these and various similar matters as we imagine. However, to the point. Five grains of blue pill to an ordinary patient, not the subject of mercurial idiosyncrasy, may accelerate the cure, when given each or alternate nights; but it should not be used continuously for more than a few days. There is no advantage in what is called "touching the gums;" but generally a great disadvantage both to the sore and to the health. As regards my own practice, I far more frequently abstain from the use of mercury altogether, a very large proportion of the cases I have treated having recovered without the administration of a single grain. I adopt this treatment from no apprehension of the evil consequences of mercury moderately applied, but from the fullest conviction that in the majority of cases it is uncalled for.

When the fossa glandis is the seat of ve-

nerolic disease, the sore often looks ragged, and burrows under the skin; but this condition does not warrant any deviation from the simple principle of treatment I have before enjoined. If situated in the neighbourhood of the frænum, that band is destroyed by the ulcerative process, and is of course not reproduced.

Mr. Wallace—to whose work I especially refer, because he has fairly met and discussed several important considerations, both pathological and curative, connected with the venereal disease—recommends the resort to mercurial treatment after the destruction of the sore by caustic, and the establishment by its agency of the action of reparation—that is to say, he is not content with the destruction of the sore, by converting morbid into healthy actions (his own reasoning, observe), but he would strike a second death-blow to the disease, already defunct, lest it should not be quite dead, and should quicken into life. Mr. W. says, "the object is two-fold—to hasten the process of healing, and to diminish the chance of secondary symptoms." But if his reasoning be correct, there ought to be no chance of secondary symptoms, even supposing the sore be competent to their production, the action of the caustic being that which reduces the ulcer to the condition of a common sore, and what more can be required? Mr. W. considers that he avoids the granular stage, and accelerates cicatrization. First, I would observe, it is an unworthy enemy to combat with so potent a weapon, and that the remedy is infinitely more objectionable than this fraction of a disease, the expense of which to the constitution amounts to nothing; and 2d, that from my own experience of the sore under consideration, I will venture, in opposition to the deservedly high reputation of Mr. W., to affirm that mercury can afford the only possible chance of secondary symptoms that the case will admit of. Either the poison is destroyed, or it is not. If not, the caustic is incompetent to its reputed ends; and, if destroyed, the mercury is superfluous. Let us reserve the use of mercury to cases in which it it indispensable. This disease you may be assured will derive no advantage from its application, either local or general. Its local administration is most offensive to an ulcerated surface, and I will pledge my professional reputation that it is not the remedy for this description of sore. I do not say that the sore will not heal under mercurial treatment; but I do affirm, with confidence, that both time and health will be economized by an almost total abstinence from it.

There are modifications of the common venerola to which I have before alluded, characterized by less excavation and by considerable induration, which have been described by Mr. Evans under the appellation of superficialis and indurata—two forms of disease acquiring their peculiar characters from that of the constitution of the person possessing them. The first is an active sore, destitute either of the torpid action of the common venerola in its early stage, or of its reparatory disposition in the second, attended with more than ordinary constitutional disturbance, and greater local irritation. Here the constitution must be treated, and not the sore. The means are antiphlogistic. Purgatives, followed by antimonials, in the form of a solution of two grains of tartarized antimony to a quart of lemonade, of which an ounce or a small wine-glassful may be taken about every half hour. If taken in excess, its effects will prove emetic. Should nausea result, the intervals may be extended to an hour, by which means we obtain a copious purgation, and that depressing influence on the circulation which this form of medicine alone can produce.

The indurated venerola is a rare form of disease, which, as its name denotes, is attended by thickening not very dissimilar to that of the indurated chancre of Mr. Carmichael, to which it is, as I believe, related, or rather it exists as a link in the chain, connecting venerolic disease with the true syphilitic chancre; distinct, however, from the latter, inasmuch as it occurs early after connexion, and may, like the last disease, be the product of gonorrhœal matter. Mr. Evans describes it as one indistinctly marked, exuding a fluid from a surface of a healthy red colour, and may be confounded with an excoriation, having sooner or later a base of a cartilaginous hardness, unless the sore be seated on the glans. It is not excavated unless it burrow underneath the skin of the penis.

Mr. Abernethy also describes this sore "as a species of chancre, in which the disposition to ulcerate is less than that to indurate, so that the ulcerated surface may heal and leave a knob." The chief interest attached to this sore arises from its great propensity to slough. It is not the product of a specific virus, and may arise independent of sexual intercourse.

There are two morbid actions incidental to venereal sores, requiring extensive modification of the treatment ordinarily employed; they are phagedena and sloughing. The first term is employed adjectively, phagedenic, to designate a peculiar destructive action by which sores extend, either by a rapid ulceration, or by slow gangrenous disorganization, more particularly of the surface, in which the margin

appears, to use the term applied by Mr. Wallace, nibbled, or irregularly broken down in the destructive process. The second indicates a more rapidly disorganizing action which attacks the whole sore, converting it into a gangrenous mass.

Of the first I shall not speak at present, because it is too fruitful a subject to be cursorily introduced here, characterizing, as it does, a large proportion of sores throughout their entire progress. The sloughing action, however, is rather to be deemed an incidental occurrence, and is much more rarely met with.

Any form of venereal sore may be attacked by inflammation of a severe and dangerous character, which may run rapidly into gangrene, involving the sore itself and the surrounding textures. It is not an action inherent in the sore from its earliest appearance, but may be deemed accidental, and dependent on causes often occult, arising during its progress. That it is not a venereal action may be inferred from the following phenomena:—1. It may attack any sore of whatever character, indurated or not. 2. It rarely exhibits itself in the early stages of the disease, during which the poison may be supposed to be in force. 3. Its attacks are directed generally, though not exclusively, on sores within the prepuce, whether on the glans, corona, or inner lining of the prepuce. And 4. It is more generally attendant on constitutions which have been reduced by active depletion, or whose functions have been impaired by excess. This important change is usually ushered in with slight fever, and its concomitants, during which the sore becomes discoloured, assuming a livid red colour, secreting a dark-brown fluid, which discolours the dressing. The prepuce becomes first œdematous, and is withdrawn with difficulty, and then inflames, participating in the change which is progressing within. Phimosis follows with advancing fever, and great local pain, increasing the general symptoms. Immense quantities of a sero-purulent fluid escape from the prepuce, attended with extreme local suffering. Pressure on the glans may generally detect a rapid extension of the sore in the circle of the fossa glandis, the structure of which is broken down into flocculent and fœtid sloughs, which escape with the discharge.

The fœtor is eminently characteristic of this condition, and may be perceived at a considerable distance from the bed. The whole penis sympathizes; inflamed absorbents along the dorsum penis are indicated by a rigid line extending to the pubis, which is eminently painful on pressure, and aggravated by the dependent position of the organ, by which the integuments on the dorsum are rendered tense.

The treatment is essentially antiphlogistic, and that almost without reference to its probable injury to the future health of the individual. The destructive process is so rapid, and the value of the organ so great, that no expense can be deemed exorbitant with which to purchase even temporary relief. If the disease be external, and accessible to local means, even the antiphlogistic treatment must yield to more direct means of arresting the destructive actions of the sore. This may be effected by the free and unsparing application of the undiluted nitric acid, which must be carefully but extensively applied on every part of the gangrenous surface, till the whole is converted into a soft white crust. This may be followed by a full dose of laudanum, and the crisis of the disease is accomplished. When the sloughing action is confined within the phimosed prepuce, and of course inaccessible to local means, as large a quantity of blood must be taken by venesection as the patient will bear, accompanied by the exhibition of full doses of mercury both internally and by inunction, with the view to affect the system specifically as early as possible—not with the intention to kill a poison, but to arrest inflammation, of which the gangrene is the immediate product. Frequent ablution by injection of warm water, or strong decoction of poppy heads, by means of a syringe, should be employed for the purpose of dislodging any disengaged portion of the gangrenous mass that may be separating; and cold water, or a bread and water poultice, as may best suit the fancy or the reasoning of the practitioner, should be applied around the penis.

Probably these means, freely employed, may at once succeed in arresting the progress of the disease: should they not do so, and their failure will be indicated by the recurring pain and protracted fever, the prepuce should be divided to a sufficient extent to permit its retraction beyond the glans. The nitric acid should then be applied according to the directions I have before given, although it has appeared to me that the relief afforded to such sores from their exposure is so great as often to supersede the necessity of applying more than the diluted acid. As a general rule, the sloughing process forms the crisis of the sore, the slough separates, and the sore quickly cicatrizes; but this is not invariable—in some instances, and especially where considerable thickening has preceded the sloughing, as in the true indurated sore, the specific characters of the disease may resume their influence, and pass through their various stages, as

though nothing had happened to disturb them.

The summary of the above is as follows:—

1. That the common venereal sore (venerola) appears within a few days after connexion.

2. That it is ordinarily characterized by its elevated margin in the second stage; the granulations also frequently rising above the surrounding level whenever the sore is situated on an exposed surface.

3. That in its early stages invariably (excepting in the rare form of the indurated venerola) it is destitute of thickening or hardness, which however exists occasionally in the latter stages of protracted sores.

4. That it is followed by no secondary disease whatever.

5. That the action of mercury is unnecessary in the treatment of venerola, inasmuch as the poison exhausts itself early in the progress of the sore, and that when employed, it is incompetent to arrest it*.

REPORT OF

PAROCHIAL LYING-IN CASES DURING THE YEAR 1838.

By James Reid, M.D.

Medical Superintendent of the Parochial Infirmary of St. Giles and St. George, Bloomsbury.

To the Editor of the Medical Gazette.

Sir,

I forward the enclosed Annual Report of lying-in cases for insertion in the Medical Gazette, should you think that it would interest any of your obstetric readers to compare it with that of 1837, which appeared in its pages last year. The number of cases, though not large in amount, will still perhaps prove of some little value as to its statistical details when added to or compared with others of a similar nature. It is, however, larger I find than the number reported from the lying-in hospitals of Dresden, and some other cities, the annual returns of which are to be found in the German journals.

By comparing the reports of 1837 and 1838, it will at least shew how unsafe it would be to deduce any statistical facts from the results of small numbers, as will be seen in the relative proportion of sex of the children born, and other details.—I remain, sir,

Your obedient servant,

James Reid.

10, Bloomsbury Square,
April 22d, 1839.

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330 cases were delivered by the midwives, in which number 9 cases of twins occurred. Total number giving birth to 158 males and 181 females, of which 18 males and 17 females were still-born.

The *greatest number* of births took place in January and May. The *smallest* in October and November.

Of the women delivered, the greatest proportion were between the ages of 25 and 30. There were of the age of 17 and under, 4; between 40 and 45, 18.

Unnatural presentations, complications, or accidents, occurring during or after parturition. Of the above 330 cases,

The breech presented in	8 cases.
Breech and hand in	1
Foot.....	1
Head and hand	4
Arm	3
Face.....	4
Head and funis	1
The placenta required manual extraction in	7
Accidental flooding before delivery	1
Hæmorrhage after delivery.....	7
Convulsions	1
Lingering labour.....	20
Premature birth	4
Ruptured perinæum	1
Turning was required in	3 cases.
The *forceps*	3
Perforation	2

Mortality.—In the 330 cases 2 deaths occurred; one from dropsy, the other from pectoral disease and hæmorrhage.

Unusual presentation of the Head and Arm, with Contracted Pelvis.

Saturday, July 14th, 1838.

I was requested by the midwife to visit Ann Drew, æt. 25, who had come into the lying-in ward on the 9th, since which time she had had occasional, though weak pains. A shew took place on the 11th, and an examination was then made, when it was found that the os uteri was only slightly dilated, its

* *Erratum.*—In last lecture, the two lines at bottom of c. 2, p. 234, ought to follow last column of opposite page.

lips being very thin. Some soft part was then thought to be presenting.

Pains came on more strongly on Friday, the 13th, continuing through the night, but not with much effect. It was at this time that I first saw her, as the midwife informed me it was a cross-birth.

On examination I found the os uteri enlarged to nearly the size of half-a-crown, the membranes were entire, and through them a hand could be felt, situated towards the sacrum, whilst high up towards the pubes was a harder substance, apparently the head. I visited the patient again in the evening, and found that the membranes were ruptured, although the pains had been but slight. The hand could now be felt distinctly presenting with the head in its natural position. I introduced the fingers of my left hand within the os uteri, and succeeeded in pushing up the hand of the infant, and in retaining it there until two or three slight pains caused the head to descend into the space which it had occupied. As in the succeeding pains, which were still very inefficient, the hand could not be discovered on examination, I ordered the patient an opiate draught, expecting that her pains afterwards would become stronger, and that nature would then complete the delivery. The midwife was requested to send for me should any thing particular occur.

At ten o'clock the next morning, I found the head now filling up the cavity of the sacrum, and low down; but I was informed that it had made no advance since three o'clock. A putrid effluvium was very perceptible on entering the ward, denoting the likelihood of the child being decomposed; but still I thought it prudent to use the forceps. On introducing one blade, however, a great quantity of flatus escaped, with putrid fluid; so I withdrew it, and had recourse to the perforator. There was much more difficulty in drawing down the head than I have usually found; and when at length the right ear was discovered, the fingers of the left hand were found lying prone on the cheek, anteriorly to it. Fearing that any continuation of the traction, whilst the arm was in this position, would have the effect of lacerating the perineum during the passage of the elbow, a fillet was passed on to the wrist. Traction was then used by means of the blunt hook, the fillet being drawn at the same time towards the sacrum, by which means the arm was brought out at its proper side. The head now descended with much more ease, elongated, and with the face to the sacrum.

A considerable time elapsed before the body could be brought down; and this was only effected by fixing the blunt hook under the scapula.

The toes of the right foot were now seen lying supine on the abdomen, a little above the umbilicus, pointing directly upwards. Another fillet was passed round the ankle, and the foot drawn down by giving it a sweeping direction into the hollow of the sacrum. The left leg descended easily. The umbilical cord was round both legs, in the direction of a figure of 8. The infant was decomposed, and the placenta very much so.

On examination afterwards a slight projection of the sacro-vertebral promontory was found to exist; and owing to this, combined with the unusual position of the child, the inefficient pains which the woman had throughout her labour, were unable alone to effect its descent.

Hæmorrhage and Diseased Lungs.

April 29th.—Jane Bristow, æt. 21, a woman of colour, of very small stature, and much deformed, was admitted into the lying-in ward, and delivered of her first child (which was in a putrid state), without much difficulty, on the 28th of April, having previously suffered, it appears, from some affection of the chest. The day after her confinement her cough became very troublesome; the respiration laborious; pulse 100, but not strong; rigors, headache, and thirst. She complained of much pain in the chest and abdomen. As flooding had come on to some extent, and had much reduced her, it was not judged advisable to bleed her from the arm, but twelve leeches were applied to the chest, followed by a blister and a calomel and opium pill given every six hours. She sank gradually, however, and died on May 1st.

On a post-mortem examination, great lateral curvature of the spine was found, bending towards the right side, and touching the ribs, there being very little trace of the right lung remaining. The left lung was much diseased, and bloody serum was found in the pericar-

dium. The pelvis was well formed; her legs measured only twenty-five inches in length.

Impaction—Use of Crotchet.

May 18th.—Ellen Foy, æt. 38, residing at 3, Smart's Buildings. Labour pains commenced on the 17th, and had continued strongly for upwards of fifteen hours, when I was first called to her. I found the external parts œdematous and much swollen, the internal parts heated, the os uteri well dilated, and the head presenting naturally, but still high up at the brim. No movement of the child had been felt for several hours. As the common forceps were of no use here, I applied the long ones; but after using moderate force for some time, no advance was made, although I compressed the blades together to some extent. The parts were too swollen and heated to leave the woman without further immediate aid, and I therefore determined on using the perforator; after which the child was easily brought down. The woman had borne a live child three years before, after a very tedious labour by the use of the forceps. There was an evident contraction of the sacro-pubic diameter. Crural phlebitis followed delivery, but was subdued by leeching, the use of calomel, opium, &c.

Very small Vaginal Orifice.—Inertia of Uterus. — Twins. — Forceps required to both.

May 27th.—Hannah Howard, æt. 29, in her first pregnancy, came in on the 24th, labour pains having commenced on the evening of the 23d. The midwife informed me that she had made an examination at the time, but the orifice of the vagina was so small that she could hardly discover it. She at length did so, but could only distinguish the infant's head through the parietes of the uterus, she not being able to reach the os uteri. Slight pains continued through the 25th, but without producing much effect. I was called in on the 26th to visit the patient, and found the os uteri dilated to the size of half a crown, but its lips so extremely thin that it really required some care to distinguish them from the scalp of the child's head, as they were placed in such close apposition to it. The orifice of the vagina was very small and rigid, more so than I have ever met with in the adult. As she had had no sleep for many hours, I ordered her 3ss. of vini opii.

The pains continued very weak, and at 2 P.M. the midwife gave 3ss. of secale, which was repeated again in the evening.

27th.—The pains became stronger in the night, and the infant's head had descended tolerably low down by the morning, but no advance had taken place since 3 o'clock. The patient has not felt any movements of the child for many hours.

As the head was now within reach of the forceps, I thought it better to apply them, the action of the uterus continuing still so feeble; but I found much difficulty in introducing the second blade, owing to the small size of the os externum. On adjusting the instrument, however, the child (still-born) was easily extracted.

On making an examination after this, another child was discovered high up, with the head likewise presenting. No pains came on, and the patient was, after a short time, made as comfortable as possible, and obtained some sleep.

28th.—Secale had been given twice during the morning, and the child's head had descended, but apparently without pains, to the same position in which the first had remained. The forceps were now introduced without difficulty, and a full-sized female child extracted, which had been dead two or three days. A fœtid discharge accompanied it. The two placentæ, which were somewhat decomposed, came away without assistance, and still without any pain being felt by the patient. The uterus contracted well, and tepid injections brought away much fœtid discharge. The woman did very well afterwards.

In this case, the remarkably small vaginal orifice proved no difficulty to the exit of the children, as it expanded easily. The patient throughout suffered little from pain, as the uterine action seemed almost arrested by the distension of that organ; each child being as large as single infants generally are. No bad symptom followed this inertia, as there was not even any sign of hæmorrhage.

Convulsions.

The following is one of the worst

cases of this description which I have ever seen survive :—

June 17th.—Mary Fenning, æt. 22, residing at 4, Russell Place, Little Coram Street, a patient of the Bloomsbury Lying-in Charity, had complained of pain in the head, with great uneasiness and restlessness, for some days past.

I was called up to visit her at 4 A.M. by the midwife, and found the patient, a young woman apparently of active temperament, dark complexion, and of very small stature, struggling most violently, and throwing herself about in the bed, notwithstanding the exertions of two strong women to restrain her. The eyes were open, and the teeth firmly clenched. Examination per vaginam proved that the os uteri was undilated, and the slightest touch on these parts caused great irritability.

I immediately abstracted 30 oz. of blood from the arm, though with difficulty, owing to her struggles; this rendered her much more tranquil, though it was not attended by any return of consciousness. Her hair, which was very thick and long, was now cut off, and the head kept covered by cold cloths. At eight o'clock about 15 oz. of blood were again abstracted, as she was still in a state of stupor; two drops of croton oil were placed on her tongue, and a blister applied to the nape of the neck. Convulsions still continued with great force.

At 3 P.M. the os uteri was not dilated in the least, the convulsions still remaining, though not so strongly. About 7 P.M. labour pains came on suddenly, and with great force, and the infant was very speedily expelled, the placenta following immediately after. A terrific convulsion of great strength and duration accompanied this action of the uterus, and immediate death seemed almost certain. Coma continued, but fortunately no other convulsion followed.

Cold applications to the head were continued, and 5 grs. of Calomel with ℈j. of the Pulv. Jalap. Comp. were administered immediately it was possible to do so.

The next morning she had recovered her consciousness sufficiently to understand the questions put to her, but was almost unable to speak through the day. Aperients had their proper effect, and on the 19th she was able to converse, complaining of pain in her head and back. The tongue, which had been severely bitten during the convulsions, now occasioned her much discomfort. All her troubles left her in the course of two days, and at the end of the week she was out of bed.

Dr. Ramsbotham has remarked, in his valuable Practical Observations, that he had witnessed the occurrence of several cases of convulsions during warm weather, when the clouds were charged with electric fluid. I may mention that this case occurred on a day which was remarkable for this precise state of the atmosphere.

The case of dropsy which proved fatal has already appeared in the journals, in the reports of the Westminster Medical Society. I find that Dr. Haighton mentions a similar case, in which the abdominal collection of water escaped through the uterus by means of the Fallopian tubes.

The case of ruptured perinæum was unfortunately complicated with hour-glass contraction of the uterus and retained placenta, which required that the hand should be passed up to extricate the latter, notwithstanding the accident.

In the second case, requiring perforation of the child's head, owing to impaction, I find that I had to perform the same operation three or four years since; but that she had brought forth a living child in the interim, by the aid of the forceps.

ON THE PROPOSED RENOVATION OF THE VACCINE VIRUS.

To the Editor of the Medical Gazette.

SIR,

THOSE who are officially employed in the practice of vaccination, are, of all others, the most interested in the vital questions now agitated, concerning the degree of permanence of the protection which it affords, and the degeneracy in the needful activity of the virus, which it is now so much the custom to attribute to it. These are totally distinct questions, and not of necessity connected with each other. I have not been inattentive to the very meritorious exertions on this subject, by a gentleman of Mr. Estlin's high character for professional attainments, in his endeavours to substitute for the virus in present use one more directly derived from the cow,

and to which, from its increased activity, he is disposed to attribute a higher degree of protective power.

The fact, however, of such degeneration of the virus I consider as still undecided, and as such, it is open to the testimony of all who have been in the habit of using it for a sufficient length of time to enable them to watch its progress from year to year, and to institute a fair comparison.

In a letter on this subject, which you did me the favour to insert in the Medical Gazette, April 2d, 1836, which was a sequel to another in Feb. 1834, I shewed, that in Dr. Jenner's very first experiments on cow-pox, as soon as the virus had passed by inoculation through a single human subject, "it was immediately brought down to a state, hardly, if at all, different to that in which we now see it, though it must now, on a fair computation, have passed through a thousand" *(not a million!)* "successive subjects, since each transmission occupies no more than a week in regularly sustained practice." I also stated that the unanswerable proof of some constitutional affection is still shewn by Bryce's test of revaccination during the early progress of the first vesicles. Having had no personal experience whatever of the new virus which Mr. Estlin has taken such laudable pains to introduce, I am unable to add my testimony to its efficacy; but being one of those surgeons to the National Vaccine Establishment who returned an opinion of the hitherto unaltered appearance of the effect following ordinary vaccine inoculation, I think myself entitled, without making a parade of thirty years uninterrupted practice, to state my reasons for this opinion, as the experience of a single individual. It is only by collecting and comparing such statements that any correct general inference can be drawn.

I really cannot find that the disorder, as now produced, has at all habitually lost any of its essential symptoms, or has become so uniformly milder as to furnish a probable mode of accounting for the numerous failures in its protective power that have lately been noticed. I use the qualifying terms *habitually* and *uniformly*, because at all times there have occurred, here and there mingled with the cases of statute regularity, some deviation which were considerable enough to be noted and registered at the time. Most of these relate to the period at which the areola makes its appearance, that most essential character of effective vaccination, which is usually fairly established by the eighth day in the hardened base and inflamed ring round the vesicle, and increases in extent and integrity for about two days longer before it declines. At the present day, as has always been the case, I sometimes find the progress of the areola hastened, more rarely retarded, but not deviating more from a standard period than occurs in the other exanthema, and especially in small-pox, and therefore justifying the opinion of average security. In the paper which I have alluded to (Med. Gaz., Feb. 1826) I have described these varieties more fully.

That these occasional varieties depend commonly on the state of the recipient of the virus, rather than on that of the virus itself, is not a matter of mere conjecture, but of easy proof. In inoculating half a dozen patients at the same time, and from the same source, we shall find, a week after, in one or two of them, perhaps, that clear pearl-like vesicle, rising perpendicularly from the surrounding skin, flat at the top from being as it were tucked in at the centre, and turgid with a clear watery lymph, such as Mr. Estlin has so well described in his last letter. The child that exhibits it has probably a plump fair skin, quite free from any local irritation in any part of the body. Another patient will exhibit nearly the same appearance of vesicle, but already red and hard at the base, from the more rapid progress of the areola. In the next, the child being in active dentition, and the skin here and there rough and pimply, the vesicle, though having the characteristic form of prominence at the edges, and depression in the middle, will lie deeper buried in the integuments; the fluid contents abundant, but not so easily obtained by mere puncture; and though still limpid, not quite colourless, and the areola pretty far advanced; the more so, perhaps, from the rubbing against the sleeve, which the child employs to soothe some degree of itching, which does not take place in the former case. Is the security in this case equal to the other? I should say it probably is, because, in the first place, the virus introduced was quite unexceptionable; and because, though the coming on of the areola is somewhat

anticipated, it continues quite as late and more extensive than in the milder form; and especially because Bryce's test is also equally available

But it is not the excess but the want of local irritation that appears to be frequently complained of. Besides the delay in the progress of the vesicle occasioned by the interference of the contagion of other diseases which I have noticed in my former papers, I believe the chill of very severe weather and the exhaustion of diarrhœa often retard, though seldom entirely prevent, the vaccine disorder. A pale, flabby, squalid, early-weaned child is sometimes brought, in whom you may predict, with certainty, that the vesicles will be slow in advancing, scanty in lymph, lying for many days loose in the skin, and slowly creeping on to a regular but faint areola. Is this sufficient for average security? With some hesitation, I should say that probably it is, for the disorder has gone through all its stages, and in two or three such cases in which I have tried Bryce's test it has answered perfectly well. I therefore must conclude this part of the subject by repeating my opinion, as far as personal observation extends, that vaccination with the virus now in use is, both in its regular form and in its varieties, in no perceptible degree different from that which we employed in the earlier days of this still invaluable discovery.

Though not a member of the Vaccine Board, I think I may be allowed some observations on the censures which Mr. Estlin has heaped upon that body with no unsparing hand, and especially on the notice he has thought proper to take of the obvious and somewhat absurd mistake in the last Report, of the word *million* for *thousand*. How, and by whom the Reports are drawn up, I do not exactly know; but to suppose that any persons of common sense would seriously attempt to give to the practice of the establishment an antiquity which a moment's calculation could carry back far beyond the creation of the world, and to insinuate that this desperate attempt was a *pious fraud* to enhance its importance, is to stretch an unfriendly feeling to a violation of candour which I most sincerely regret.

I must also think that the Board have shewn a sound discretion in declining to become the medium by which the virus introduced by Mr. Estlin should be generally circulated; unless they were prepared at the same time to adopt it, to the exclusion of that which they usually transmit. If the new virus continues to maintain its asserted superiority through several periods of reproduction, there is no doubt but that it will make its way by the zealous exertions of its present friends, and may be brought into general use in less time than perhaps would be imagined. But were the Board to give out that they possessed, and could transmit, two varieties of vaccine virus, one of them considered by many as far preferable to the other, what would the public conclude, but that they dealt in a better and a worse article; one genuine, and one almost spurious; one worn out, the other in its prime; one for choice, the other for ordinary purposes? Instead of combining to the same end, the success of either would tend to shake the confidence in the other. If, too, any vexatious failure should follow the use of the renovated virus (the occurrence is possible) how easy to insinuate *bad faith* in the distributor; how difficult to disprove the accusation!

Two more subjects of censure Mr. E. has brought against the Board. One is an indifference to the statistics of vaccination, the other a neglect in making known to the public the legal penalties and prohibitions against wilfully spreading small-pox contagion. The latter is not entirely correct; since, in every one of their printed wrappers, it is expressly stated, that "persons exposing patients affected with small-pox, and medical practitioners and others who inoculate with that disease, and concur in such exposure, are liable to a criminal prosecution for the offence;" and a reference is given to two legal decisions on this point. But had it been entirely omitted, I cannot see that much harm would be done, considering the total practical neglect of this prohibitory law; and, moreover, the entire omission of any thing like domestic precautions amongst the houses occupied by the lower classes—the great nursery and hot-bed of variolous contagion. If they could keep effectual guarantee, they would not; and if would, they could not; so that it is needless to discuss the propriety of attempting to enforce it. It is a little amends for a severe small-pox epidemic, that it often frightens to the vaccine

stations those on whom mere persuasion would be thrown away.

With regard to the imputed neglect of the *statistics* of vaccination, I suppose this term chiefly refers to the striking an average of success or failure of protection, total or partial, in a sufficient multitude of cases, by observations spread over the largest number of years that have elapsed between the insertion of the supposed protecting power and its occasional failure. In this country, at least, this object has never been attained, except in a very imperfect and limited degree, and is probably unattainable by any private association, or by a public body who derive from government only the means of existence and facilities of intercourse. The activity and intelligence which direct the practice of the Small-pox Hospital can give, and have given, highly valuable data in cases of failure of vaccination, as to the length of intervening time, the proportionate severity of disease between these and the totally unprotected, and the like; but this does not meet the question, the most important of all, of the numerical value of the average protection from small-pox, afforded to all the vaccinated by Dr. Jenner's discovery.

But if it be still urged upon the Board, "you have for many years been employing practical vaccinators, dispersed over this great metropolis, what is the result of their experience? Let each of them be put upon the scent, and hunt down the facts from which to draw our inferences." First, then, he must turn back in his registers for seven years, (*seven* being universally held as a pivot number for all changes and series, so that already our patients constantly put the question, "Is it not true, sir, that it only holds good for seven years?") Then, as to the number of cases required for a fair average, the larger the better; but less than five hundred would hardly answer any useful purposes; so that, being armed with three times as many names and places of abode, he must endeavour to find out, in the lanes and alleys of this metropolis, where the artizans usually congregate, some clue to five hundred lodgers who were seven years ago living in the indicated places, and their now half-grown boys and girls. In this pursuit he would meet with civility in most places, particularly from the usual courtesy of the female sex towards the medical profession, and probably would have some active assistance as soon as they were convinced that no sinister end was to be answered. Supposing now, that by long and diligent inquiry he had collected the information which he was seeking—that is to say, the proportion out of his whole number that had been visited with small-pox, mildly, severely, or perhaps fatally, still one great element would be wanting to his calculation, namely, to discover whether the untouched had merely *escaped* small-pox contagion, or had *resisted* it.

In first introducing the practice of vaccination to public notice, the proof-trial was of course for some years the subsequent inoculation of small-pox on the vaccinated individuals. When the permanence and universality of the protecting power was thought to be well established, small-pox test inoculation was abandoned as unnecessary: now, when the protection is found to be less certain, it is abandoned as attended with possible hazard; whereas a second vaccination renews the security without the risk. Our inquirer, therefore, must complete his task by persuading the parents to require, and the young people to submit to a second vaccination, and to give sufficient attendance to verify the effect. Where a royal order can revaccinate an army, or a ukase all the registered serfs of a province, who crouch before the unsleeping eye of power from the cradle to the grave, these useful acts of authority are easily performed, and little liable to error from neglect or wilfulness. I need not say that our title of "National" gives no such authority, scarcely influence, to our own establishment. We must win our way by persuasion, if at all; it is even difficult for us to prevail on many parents to return with their children at the time required for mere inspection of the disorder in its progress, as they are aware they will be called upon to make the slight return for gratuitous service, by affording a supply of the virus by which they themselves have profited. In many, however, a better feeling is found; they admit the reasonableness of the return required of them, and they are not wanting in thankfulness to the surgeon himself, who, if his attendance has extended over many years, after being employed with each successive

child of one goodly family, is often called upon to repeat his good offices to those of a second generation.

The Jennerian discovery, after it had been fairly launched into the world, and before the limitation of its powers had been brought to the proof, certainly suffered some injury by the supposed entire simplicity of the whole subject, which, even in medical practitioners, led to a carelessness in noting the anomalies, if not to a denial of their existence. Its value is still much greater than that of any other remedy for any known disease at all comparable to small-pox in mischief to the human race. A debt of gratitude is therefore owing to those who, like Mr. Estlin, gratuitously devote their time and their abilities to remove defects which cannot be denied, ought not to be underrated, and which still interpose to prevent the full completion of the eminent discoverer's wish, that in time small-pox should be known only by name, and by the records of its ravages.

I remain, sir,
Your obedient servant,
C. R. Aiken.

Great James Street, Bedford Row,
May 2, 1839.

CASE OF DISLOCATION OF THE LEFT FEMUR ON THE PUBES.

To the Editor of the Medical Gazette.

Sir,

John Coverdale, æt. 43, was employed, on the 13th February, 1839, at a quarry, in Burniston, when about one ton of earth suddenly fell upon his body and right thigh, throwing him upon his back. A second fall of earth immediately succeeded to the first, but striking with great force upon the inside of the left thigh (the right being already fixed), dislodged the femur upon the pubes.

My pupil, Mr. Best, who first saw the patient, immediately discovered the nanature of the accident; for there was a very distinct bony prominence on the pubes, a great depression in the usual situation of the great trochanter, the limb everted and separated from its fellow, and about an inch shorter in length. My partner, Mr. Travis, and myself, made arrangements for the patient to be brought to Scarborough, where more efficient attentions could be secured. On calling a consultation, which was obligingly attended to by Mr. Weddell and Mr. Wilson, we found that no proper apparatus for the reduction existed in the town; that the case was of such extreme rarity as never to have been seen by any of us, either in hospital or private practice, but the course to be pursued was laid down by Sir A. Cooper, in his work on Dislocations, and we felt no difficulty in our operations.

Having first placed our patient as upright as we could, on a firm bed, he was bled to 25 oz. As he had only been poorly fed, we did not feel warranted in further depletion. Tartar emetic was then given in divided doses, to the amount of six grains, but neither syncope nor sickness supervened. He was now laid upon his right side, the left knee bent, and given in charge to an assistant, while a strong towel, passed within the groin to fix the pelvis, was attached to an iron bar, beyond and just before his head. For want of proper pullies, we had recourse to the rather unwieldy ones used in ships, having a single purchase with two single blocks. These were attached to a staple in the floor. A good deal of time was lost at first in adjusting the apparatus to the knee, so as to give a sufficient firmness of attachment without acting too tightly and injuriously on the skin.

Extension was now made with considerable force downwards and backwards for about ten minutes, when the bandage at the knee gave way. Mr. Weddell then reapplied the cords very tight, and extension was renewed in the same direction. After persevering for about ten minutes or a quarter of an hour without any apparent success, the head of the bone at length seemed to have moved. During this evident relaxation of the muscles I directed the extension to be desisted from, and lifting up the thigh with a towel placed round it and the back of my neck, Mr. Weddell gently turned the knee inwards, making a lever of the limb. The head of the bone returned to its place with a slight snap. The fever after the accident was scarcely perceptible. A little sickness and griping supervened, probably from the tartar emetic; and an aperient was all that was required during the subsequent treatment. The patient was kept in bed three days, when he got up and

walked across the room. I saw him about seven weeks after, when I found him walking very well, able to rotate one limb as well as the other, and only complaining of a little weakness in his knee. The time which elapsed from the occurrenc of the accident to the reduction was about seven or eight hours.

In conclusion, I beg to acknowledge myself much indebted to the ready and efficient co-operation of my medical brethren on this interesting occasion. A similar case occurred in the same village in the year 1756, in the practice of Mr. Travis's father, which is recorded in page 99 of the second volume of "Medical Observations and Inquiries." This was reduced without pullies.

I am, sir,
Your obedient servant,
JOHN DUNN.

Scarborough, April 25, 1839.

SELF-INFLICTED WOUNDS.

To the Editor of the Medical Gazette.

SIR,

IF the following is worthy of a place in your valuable journal it is much at your service.

Your obedient servant,
WILLIAM TARLETON.

Birmingham, April 24th, 1839.

Early in the morning of the 13th of December, 1835, I was sent for to see Mr. ——, æt. 29, residing at Lee Crescent. His sister informed me, on her hearing a noise in the kitchen she went down stairs, and discovered her brother in his night shirt streaming with blood from his head, with a clever by his side. When I first saw him (about one hour after the occurrence), he was extremely pale from loss of blood, sitting in a chair, and sensible enough to be aware of my presence. On examining his head I found upwards of thirty cuts on the posterior portion of the parietal, and superior portion of the occipital bones on the right side, in a horizontal direction from behind forwards, of different lengths and depths, some mere flesh-wounds, the longest of which measured four inches; others extending quite through the bone, so as to completely cut out a piece nearly one inch long and half an inch broad, cut transversely about the middle of the lambdoidal suture, through which portions of brain escaped. All the wounds, I have not the least doubt, were inflicted by himself. He must have held the clever overhanded. It is not probable that he could have been taken out of bed and forced down stairs without disturbing the family, on whom no suspicion could rest, and all the outer doors were examined and found fastened. He survived four days, part of which time he was sensible, and acknowledged having done it himself. He had been removed from London the day previous, in consequence of being insane.

The object of this communication is to record fact, that such an important and extensive wound could be self-inflicted. I shall merely add, that he was attended by Mr. Bracey (who lives in the neighbourhood) and myself; that a coroner's inquest was held, and a verdict given according to the opinion expressed above.

SKETCHES OF MEDICINE IN PARIS.

No. II. SKIN DOCTORS.—ALIBERT.

WHO has not heard of Alibert, the great scabrographer of Europe? It was on a fine July morning, now some years ago, that, under an avenue of limes in the great court of the Hôpital St.-Louis, with two hospital sheets for a "tentorium cerebello superextensum," and mounted on a temporary platform—a theatre for himself and his disciples—I was first introduced to this renowned and meritorious dermatologist. Before him, on his desk, lay rolls of portraits of different unsightly acquaintances, and pegged upon the trees, like linen hung to dry—a large assemblage of monstrous productions executed by the painter to the hospital. It was, on the whole, a bad preparation for a *déjeûner à la fourchette.*

Here you might study, *not* at your ease, the various modes of mischief entailed by syphilis upon the race of mortals. Look at that poor negro's face, which *first* challenges notice from its *colour;* a devastating ulcer of Paphian origin has made one mouth of the whole nether face, which to describe further were nauseous. Six other faces are stamped with equally impressive texts, warning you to beware that "idem est dissimili semper in ore Deus." A little further off, see that huge tumor which

thrusts forwards a sightless eyeball, destined soon to occupy the whole orbit, and extending in an opposite direction towards the brain. The pinched chin and straw-coloured cheek render the fatal word cancer written below unnecessary. More frightful still in its outward manifestation, is, behold! polypus. Those raised and blood-shot eyeballs seem to glare in phrenzied agony. On another tree or branch a hugely-swelled parotid swamps the whole face in its ceaseless growth. Simple hare-lip is not pretty, but what would you take to approach within a yard of those lips fissured with green gangrene? Yet, even here, the painter occasionally intersperses with these horrors a dash of something less revolting. See that self-satisfied youth, with his *mentagra;* and those females tricked out to exhibit the attractions of acne. But hark to the hum of voices! the morning's instruction is about to commence. The pupils in hundreds flock round the benches, inkstands are uncorked, and pens preparing to take notes; others examine, ere it ascends the platform, each unknown malady, come to claim a name, and to obtain, if possible, an asylum. But I must introduce you first to Alibert himself. You see, at a glance, what kind of a person Alibert is: a frank expansive countenance that there is no mistaking; where shrewdness is united to benevolence, and discernment apparently joined to great simplicity and *bonhomie*; you hear him called by his pupils, "le bon père Alibert." Well, Alibert is good natured, and so far benevolent; he is discerning, and uncommonly shrewd; but as to his simplicity, its all affected—the *ars, celare artem.* As a lecturer, there is none that we would listen to with greater pleasure, for he is eminently conversational; which advantage, however, makes him, they say, a lecturer in conversation; when, as every body wishes to say something, it is by no means so popular an endowment.

...."Porrigo," thus abruptly would he open his subject, "vilain mot qui sort de la basse latinité du moyen âge, was introduced, together with the foul disease which it designates, by the Crusades. Now, I dare say, gentlemen, that many of you who hear me imagine that the age of chivalry was, if not a golden, at least a very polite and cleanly age, il n'en était pas ainsi; au contraire, it might almost, I think, be affirmed that the chiefest of the trials to which that chivalry was exposed was the having so many unsightly cutaneous disorders to brave in Palestine; not only the reigning diseases of the country, but such as were soon produced by thirst, vigil, famine, and dirty linen; things, gentlemen, of which Tasso never dreamed, but which the historian of disease is bound to consider in his attempt to trace disorders to their origin. Gentlemen, I state it unreservedly, there can be no doubt that we owe scalled head to the Crusaders!"

On mentagra—a subject on which he is particularly fond of descanting—"pour faire en quelque sorte," as he tells his class, "l'histoire de la barbe," he made many curious remarks, shewing how accurately he had got up his subject and ransacked history. In Henry the Third's time, in France, razors were rare, and the beard was suffered to grow where it list; the consequence of which was, endemic mentagra, which affected almost every man in almost every rank in society. Henri IV. "le monarque galant, lui-même était grand ami pour la barbe; mais pour une barbe bien reglée, que fit-il? il ordonna ce qui suit"—which was to destroy the crop of hair under the chin entirely; but, to please the ladies, he sanctioned a thin ring of unclipped hair to adorn the contour of the lower jaw.

Mentagra was not much indebted to the king for these regulations. His successor était encore ami de la barbe, mais il avait ses idées (we all have, gentlemen!) Louis' idea was grand: it was in his reign that the idea of moustache was first conceived; but every thing changes, even to our beards; "les jolies petites moustaches, qui avaient succèdées à la barbe rayonnante de Henri IV." gained proselytes, and divided with it the favour of the sex; but moustache lost all its triumphs and sustained a signal overthrow on the accession of Louis VII. This monarch, like Cicero, was no patron of beard, and ordered folk to keep their chins clean. This ordonnance made him many enemies; amongst others, his royal consort, who said that it was a shame for a man to shave like a priest, and to go with beardless lip into battle; so he procured a divorce; but many other husbands got into hot water with their wives in consequence of applying hot water to their chins. In the time of the first Crusades

the fashion was still in favour of the long beard, on the proper cultivation of and attention to which much pains were bestowed. Not only was it trimmed daily, and perfumed at night with costly cerates, but a bag was invented to hold it, and every night after the great chevaliers of those days had said their prayers, they bagged their beards in a sort of reticule, similar in shape to that which the monks used to beg alms in, hence called a "bigotine." "So much for the beards of our ancestors! And next, gentlemen, respecting your own. If any of you now hearing me is conscious of having a beard in that situation (under the chin) where it proved so mischievous in Henry the Third's time, which was proscribed by Henri IV., and not revived by any of his successors, let me exhort him to shave it off; and the rather to induce those who may feel reluctant to comply, let me read you the regulations imposed by the Ministre de la Guerre, or those whose duty it is to look martial, and whose wish it is, like your own, to appear gallant." Such was the mode in which Alibert used to carry on his out-of-door lectures, till within a few months of his death. He was a great favourite, and is still respected and talked of with pleasure by many of his old pupils, who prefer, with allowable predilections, the "tempus actum" and its teachers to their own immediate contemporaries.

Sketch II.—Monsieur Biett.

Monsieur Biett's face, if represented, and it deserves to be represented, would be better in terra-cotta than in marble. To a superficial observer there may appear a certain rugosity of features, which soon wears away in the intelligence and shrewdness which it displays. The droll way he has of enlivening the tedium of the two long hours' visit, and of keeping up his own and his pupils' attention till the last petitioner for sulphur and fumigation is gone, is unique. During assiduous frequentation of his practice, and some participation of his society, we never heard him utter a silly, and seldom an uninstructive remark. His conversation is the "sublime of good sense," as St. Marc Girardin says of Voltaire; he seems unambitious of more extensive fame than his pupils can bestow, and cares not if his observations go beyond the walls of the consultation room. Armed as he is with quickness, uncommon sagacity, and ample experience, he admits the probing, perhaps indiscreet, question, and affects no unattainable precision; nor does he seek, as the manner of some is, to say striking things, but looks out quite "au naturel" under his bushy eyebrows. We never heard him use an unkind word to a patient, and many times have seen him confer on them those little attentions—the unbought charities of life; and this we mention the rather that too many medical men in France seem to forget they are dealing with their fellow-creatures, and appear rather to interest themselves in disease as philosophers, than in the unhappy sufferers as men.

We have said enough to interest the reader in M. Biett's moral character, and shall proceed to some specimens of his intellectual—of that sort of quickness and cleverness which we have praised, and which we venture to think will ever add additional charm in the exposition of all kinds of knowledge. Many of the patients who come to ask advice are afflicted with that unsightly malady which, for want of a convenient periphrasis, we are constrained to call by its opprobrious name of "itch." Biett has been familiar with it for many years; but, unlike other intimacies, not to the shaking of hands. Sometimes the querist (as if aware of the Aristotelian *αποσιωπησις*) does not name the disease—"Est-ce bien *la* — que j'ai?" making his hands, which he extends, complete the interrogatory. Biett answers such questions in an equally droll and delicate manner: "Oui, monsieur, c'est bien *la* —." But as the "Bourgeois gentilhomme" was taught seven ways of varying the same sentence, so does the mode of questioning M. Biett on this interesting existence vary almost *ad infinitum*. The following may serve as some of the most usual ways in which it is presented: —"Monsieur, j'ai la gale." To which he replies, having satisfied himself that it is even so, "Oui, monsieur, vous avez la gale." Sometimes the same question is put interrogatively—"Monsieur Biett, ai-je la gale?" A third, shewing his fingers, says, his friends insinuate that he has the itch. "Que j'ai la gale!" "Eh bien! vos amis ont raison. Your friends are quite right in their diagnostic; you have it in perfection." A fourth flings his paws on the table, and requests "M. le Dr. de prononcer un petit mot sur cette maladie." "Am I to name it

for you," asks M. le Docteur.—"I wish you would be so good." "With pleasure—*itch!*"—"Impossible." "Oh, my friend, with me nothing is impossible."—"But, sir, my wife ought to have taken it, for we sleep together." "Ne vous impatientez pas, mon brave, she will take it, I answer for it, in a short time."—"Peste!" "No—itch, I said."—"But, sir," rejoins the obstinate man, "I have not even seen a person with the itch." "I did not say you had, did I?—besides, sight is not the sense that communicates itch." A man winding himself up for an oration receives a check by the simple monosyllable—*gale*. "Monsieur, vous plaisantez," says the patient, malgrè lui. "Si vous le trouvez plaisant," gravely responds Biett.—"A la bonne heure." "Au contraire," exclaims the indignant accused, as if Biett had given him it. "C'est une infamie, une abomination." He has still, however, one shot to fire before he surrenders—"Voyez, monsieur: look between these fingers, they are free from all eruption." "Insatiable man! must you have it even between your fingers to satisfy you? Wait a week." "Monsieur! I am afraid you will pronounce this to be itch," said a fellow in a blouse, rotating a dirty hand round its carpus, just within the focus of Biett's eye. "Vastly like it, indeed."—And when, sir, might I have taken it?" "Why, my friend, it would be difficult to answer that question; perhaps you are not aware that 'la gale' does not inscribe date "sur ses boutons."

It is a mother seeking admission for her boy—she is a smart little brunette. "Do you wish your son to become demoralized, madam?" "Comment, monsieur?"—"Mais, mon Dieu, oui, madame! morals are not taught in the Salle Henri IV.; on entre avec la gale, on sort avec toutes les vices." "Tiens, c'est drole! pourtant, monsieur, nous voudrions faire entrer le petit bonhomme tout de même!" He was admitted accordingly.

I saw a sturdy fellow on one occasion return his ticket of admission, as the sight of the words did not appear to meet with his approbation. Most men would have been annoyed—Biett lets nothing put him out. "Monsieur," says he, turning solemnly round, and with a certain air of dignity to another whom he had just refused, for want of room—"Monsieur, vous êtes reçu!" as though he was admitting him into the Institute. "Vous avez tous la gale—You have got the itch, every one of you," to a knot of blackguards, who came up for the ceremony of confirmation; "and observe, gentlemen," he continued to his pupils, as the blouses passed in front of the table, "observe, and make a note of it. Not one of these young men, you see, takes off his hat! in obscure cases, and where you have your doubts, look to the head: if the hat is on, that will settle the question at once; in *itch*, the hat is really diagnostic!"—"Encore, la gale!" "No, sir, there you are wrong—*eczema* is my disease; you told me so yourself last week." "Did I? you have a good memory. Well, last week you had eczema; there it is—today you have the itch; there it is—you have now what we call a 'complication', will you recollect that word?" "I'll try to do so," said the twice happy man, and drew down his shirt sleeve!

CASE OF TIC DOULOUREUX*.

To A—— B——, Esq.

SIR,

IN reply to the inquiries which have been made at your request, respecting the case of Master Henry Atkins, who derived such singular and permanent benefit from the use of the factitious German mineral waters, I have drawn up the following statement, which, I believe, comprises all the essential circumstances of his sufferings and his cure.

This boy, aged thirteen, had been previously in excellent health, and was so on the 25th March, 1837, when he underwent long-continued and violent exertion, followed by extreme fatigue, in attempting to keep pace with a noted pedestrian, who was walking against time. To cool himself (for he was in a state of excessive heat and perspiration), he untied his cravat, and walked slowly home. Two days after, he was seized with severe pain in the left side of the face; particularly in the upper-jaw, which became subsequently the seat of it. This attack was at first believed to be owing to the teeth, but upon inspection by a dentist, they and the gums were found to be perfectly free from disease.

* This case has been forwarded to us by a medical friend.

Various local applications, leeches to the face and to the gums, a blister behind the ear, &c. were industriously followed up for a whole week. The pain, notwithstanding, increased in intensity, with irregular remissions and paroxysms during the day; while in the night he was without pain, and generally slept well. He was now placed under medical treatment; and that was assiduously plied and frequently varied, according to the severity and the obstinacy of the symptoms. Nothing seemed to be of any avail in mitigating suffering, or in checking the disease. The boy grew worse. The paroxysms are described to have become gradually more and more frequent, and no longer to have spared his night's rest. At last they left him very short intervals of ease; and the pain was often so acute and insupportable as to throw him into convulsions. At this time his intellect is said to have been impaired; he did not clearly distinguish objects, forgot the names of things, and could not connect his ideas. Whether this condition depended upon the disease or upon the treatment, I know not, as it disappeared soon after I saw him.

When I was consulted, my patient had been ill *above four months.* His general condition was such as has been described. The case presented all the characters of a severe tic douloureux. The parts affected with pain presented neither redness nor swelling; there was no preternatural heat; and pressure could be endured. During the remissions, the pulse and respiration were natural. He had a desire for food, but took it sparingly. The evacuations both from the bowels and the kidneys were unhealthy.

Having already prescribed the German mineral waters (as, indeed, I continue to do) with great success in many severe cases of neuralgia, and being well acquainted with other remarkable examples of their efficacy both at home and abroad, I resolved to make trial of them in this instance. The boy having been submitted to a proper course of diet and medicine, as well to free him from the effects of former treatment as to prepare him for the mineral waters, he was directed to begin with two beakers of the Ems Kesselbrunnen of the temp. 117°. When he was found to bear this well, the Carlsbad water was ordered, beginning with the spring of lowest temperature, 122°, and gradually progressing till he was able to take six or seven beakers of the Sprudel, 165°. After the first week, there was an abatement of pain. In six weeks his health and spirits were restored, the pain having gradually subsided, till it left him entirely. He has been now quite well about a year and a half.

I have the honour to be, sir,
Your obedient servant,
G. S. JENKS.

Brighton, 25th February, 1839.

MEDICAL GAZETTE.

Saturday, May 18, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

MEDICAL CHARITIES.

A LATE eminent individual occasionally suffered under a most singular defect in his vision. When he looked at a word, as, for instance, a name on a door, he could see only one-half of it at a time; and when other men saw *Tomkins* written quite plainly, he read only *Tom* or *kins.* His intellectual faculties, however, were quite sound, so that he never took the half for the whole, and often guessed what he did not see. The mental amaurosis under which our Malthusians labour is of a far more painful kind; if they can see but a third or a tenth of a subject, they immediately draw their pinching conclusions, and should any humane person attempt to set them right, they babble something about surplus population and geometric proportion. The word CHARITY, for example, stands over the portals of a hospital in capital letters; nobody can mistake it; nobody, that is to say, but a disciple of Malthus; he can read only the first two letters, and fancies that they stand for *cheating.* Now we promised in our last article to shew that this is not the case, and that there is no good reason for supposing that the Sheffield (or, in-

deed, any other) hospital is frequently imposed upon.

In the first place, then, why are we to imagine that the persons now commonly admitted into hospitals were not originally intended to be benefited? Do the rules of Guy's or St. Thomas's Hospital, or of the Sheffield Infirmary, ordain that the physician is to chaffer with the sick, to overhaul the day-book of their life with unfriendly eye, and reject four-fifths of the applicants? Is the hard drinking of 1838 to exclude the gastritis of 1839? or is the going to Bartholomew Fair to be incompatible with entering Bartholomew's Hospital? Again, are working men supposed to be inadmissible into any Infirmary on the face of the earth, because they have so few children that they might maintain them, or so many that they might be maintained by them? But, above all, when or where, before the late shivering fit of frigid enthusiasm, was it ever proposed to exclude servants from hospitals? Why it is for this very class that hospitals are eminently necessary! What is to become of an ordinary servant, attacked with fever or acute rheumatism in the house of a middling tradesman? In the golden age, she would have been considered a member of the family; but we live in the iron one, and she is sent home to her friends: and to what a home? Her father is a mechanic, with a wife and three children, occupying a garret in a by-street, with little money, and no spare bed. It seems from the "Inquiry," that fever cases are not admitted into the Sheffield Infirmary; possibly its assumed contagiousness excludes it; but if so, what is to become of the mechanic's family, with every member within six feet of their sister labouring under typhus? It must be allowed, that the idea of a founder becomes sadly contracted in the pineal gland of an economist; instead of measuring Hercules by the foot—instead of supposing the boundless liberality from the great institution—a Malthusian will hold out his toe, and cry, "Carve me a founder of an Hôtel-Dieu after this pattern—an Edward VI. to correspond with this taper extremity!"

Or, in the second place, if, instead of reasoning upon the sentiments of the illustrious dead, we endeavour to ascer- those of the generous living, we shall find that they are rarely liberal, after the fashion of the economists. Charity with a large alloy of suspicion, may be a good qualification for a relieving officer, but is a very bad one for a contributor to an infirmary. The fact is, that benevolent institutions are not indebted, either for their origin or their support, to the contributions wrung from the cold and the reluctant; they are not watered by the scanty rill miraculously forced from the rock, but by the copious streams which spontaneously descend from the hill-side. The genuine and willing subscriber, who bestows not one guinea from shame, but fifty from love, is not likely to become an exclusionist, or to cry out that hardly any one is destitute enough to enter his hospital. The mere Malthusian, on the other hand, is so fastidious, that no lady ever found it more difficult to match an amber-coloured ribbon than he does to get patients to rival his patterns of perfect misery. Too many children or too few, marriage or celibacy, are equally inadmissible; the colours are a fine canary or saffron, but the real amber tint is wanting.

The old man who exclaimed,

"Homo sum, humani nihil à me alienum puto,"

may have felt that his sympathy with the consequences of human error depend in some measure on his own liability to the cause as well as the effect. The rich landholder of the West Riding recollecting that he was formerly not proof against old port, ex-

tends his indulgence to those who have been frail in gin; and even if the sick poor should happen to be single, or married, without children, he does not say, with the author of the Inquiry, that "These, in the majority of instances, should be made to struggle against their difficulties*." But there is still another point on which we are not at one with the exclusionists; we differ with them as to the interpretation of the social contract. They are ever ready with the cry of "Leave the poor to their own resources," and wish to have it believed that their only resources are the wages given them by express agreement, or their savings from these wages. A labourer in husbandry has eight shillings a week; and out of the superfluous part of this revenue he is to subsist when ill, to provide his wife with an accoucheur, and to lay up a provision for his old age. When the Commissioners for Inquiry into the state of the Poor in Ireland asked the tenant of a cabin if he could save any thing from his wages, he wanted to know "If it was funning the gentleman were?" And it must be owned that many of the Malthusian propositions have the air of a grave joke, and would have done honour to the Dean of St. Patrick's.

Our view of the social contract is as follows:—The labourer receives only eight shillings a week by express bargain; but by an implied though tacit agreement a small addition is made to it, as long as he conducts himself tolerably. Occasional bounties of various kinds, and gratuitous medical advice when he is ill, are among the usual additions to his scanty wages. Now supposing these gifts to amount, on an average, to two shillings a week, can a man whose heart is any thing more than a pulsation under the fifth rib, deplore the amount lavished upon the thriftless ploughman, and wish that he were left to his own resources? Is it not plain to all whose wits are above the level of a *grudger's*, that when the two shillings have been added to the eight, society has still driven a hard bargain with the rustic labourer, and obtained his endless toil at half its real worth?

We will conclude by remarking, that if any error were unaccountable, it would be that stupid one of the Triumvirate and their hangers-on, who continually repeat that charity degrades its object, as an argument against the old administration of the Poor-law, and, indeed, against benevolence in all its forms; quite forgetting that in England, where public and private charity have always been profuse, the lower classes are more spirited than in those continental states where relief is dealt out with a reluctant hand. Let us hope that some of these icy philosophers practise better than they preach; and as Martial boasted that though his poems were wanton his life was pure, we trust that though the author of the Inquiry writes like a Malthusian, he acts like a physician.

* This systematic dereliction of the duty of charity is not recommended merely in the case of drinkers, nor is it enjoined in this place alone. At p. 36 the author says, "The awakening of their own faculties, or the breathing process, by which the mind starts into conscious existence and vigorous exercise, will mainly be accomplished by throwing them upon their own resources. * * * Supposing, in the attempt, debts and obligations are incurred, which compel strict economy, or occasion certain privations. There is nothing hard, cruel, or unjust in this. There would be great cruelty and injustice were it otherwise" (!!)

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

May 14, 1839.

SIR B. C. BRODIE IN THE CHAIR.

On the Composition and Elementary Structure of the Pus-globule. By GEO. GULLIVER, F.R.S., Assistant-Surgeon to the Royal Regiment of Horse Guards.

IN the course of some researches on the properties of the different animal fluids,

the author has been led to observe certain peculiarities in the structure and composition of the pus-globule, which he believes have not hitherto been described, and which he regards as important, because there are particles both in the healthy and diseased animal fluids liable to be mistaken for those of pus; and we can only expect to acquire a satisfactory knowledge of each, and of their respective uses in the animal economy, by a careful investigation of their specific characters.

The description which the author has given of pus comprehends an account of the physical and chemical properties of two distinct substances, which he says compose the globule. One of these appears to be analogous to coagulated fibrin; while the other would seem to be a proximate animal substance, possessing well-marked characters, and, indeed, giving to pus its peculiar properties, such as its gravity, indisposition to putrefaction, &c.

The author's observations are summarily noted in the following conclusions, viz.:—

1. That the pus-globule is composed of central molecules, generally three in number, connected together by an external part, which gives shape and size to the whole.

2. That the molecules are dense, smooth, and spherical, measuring from 1-10666th to 1-8000th of an inch in diameter; and that they differ from fibrin, and from any part of the human blood corpuscle, in their form, density, indisposition to putrefaction, and complete insolubility in acetic acid.

3. That they are probably of a peculiar nature, and indispensable to the constitution of the pus-globule.

4. That the external portion which surrounds the molecules, so as to complete the pus-globule, is analogous to coagulated lymph or fibrin, being rendered translucent, or dissolved by sulphuric, sulphurous, oxalic, or acetic acids; and the solution in the latter affording a precipitate with ferrocyanate of potass.

The medium diameter of the entire pus-globule appeared, in the author's micrometer, to be something between 1-3000th and 1-2500th of an inch, although he observed that there are so many globules of both larger and smaller size than here indicated, that probably no measurement of the pus-globule has ever been given which might not be verified by the selection of some one of corresponding magnitude.

Mr. Gulliver proposes to designate the little central bodies *pus-molecules*, remarking that these can never be confounded with the *pus-globules* by those who have once examined the distinction.

The paper concludes with an incidental suggestion as to whether some of the substances which are shewn to possess the power of easily decomposing the pus-globule at the moment of its formation, might not be found useful in the treatment of certain obstinate cases of suppuration.

On a new and successful Method of treating Prolapsus Uteri. By Benjamin Phillips, F.R.S., Surgeon to the St. Marylebone Infirmary.

The object of the author in the present communication is to recommend a method which he has employed with success in bringing about a diminution in the calibre of the vagina in old cases of prolapsus uteri, and thus presenting an obstacle to the descent of the uterus. He relates the case of a patient in the St. Marylebone Infirmary, in whom the infirmity had existed for several years, and who had been unable to bear the irritation occasioned by pessaries of all shapes and of every material employed in supporting the womb. In this case the author succeeded in giving complete relief by destroying a portion of the mucous lining of the vagina by means of strong nitric acid. The contraction which ensued on the separation of the sloughs reduced the vagina to the size of that of a woman who had never borne children.

Remarks on the Removal of Vascular Tumors by Deligation. By R. Liston, Esq., Surgeon to the North London Hospital.

The object of this paper is to afford an additional recommendation of a practice applicable to the ligature of vascular tumors, which has been again and again laid before the profession. The author is induced to bring it forward on the present occasion because it was not noticed in the paper of Mr. Tyrrell on Nævus, which was read before the society early in this session. The plan alluded to consists in dividing the skin at the base of such tumors before tightening the ligature, in order to avoid including it in its noose. By thus modifying the operation, the author considers that several objections to the use of the ligature are avoided—namely, the intense suffering which attends its application in the ordinary way—the imperfect strangulation of the included mass—the bleeding which sometimes occurs in the separation of the sloughs—and the deformity caused by the destruction of the cutaneous and other tissues.

The author subjoins some cases of the successful application of the ligature in the manner proposed, and refers to others which have been published in the Lancet during the last two years.

At the conclusion of the meeting the secretary announced that the next meet-

ing of the society would take place on Tuesday, the 28th, and not on the 21st, as had been erroneously stated in the cards sent round.

A LECTURE

ON

INOCULATION, VACCINATION, AND REVACCINATION,

Delivered in the Theatre of St. Thomas's Hospital,

BY DR. CAPE.

BEFORE closing my observations upon the more important and peculiar diseases of children, I wish to call your attention to the late very general prevalence of small-pox, and the frequent failures of a single vaccination in infancy as a protection against that hideous disease for the whole period of life. I shall endeavour to throw together the principal facts which have lately been brought before the profession; and in doing so, I cannot sufficiently express the obligations we are under to our German medical brethren for their careful statistics on this point; they have shewn themselves in this more practical than usual, and have compensated in some degree for the importation of homœopathy, animal magnetism, and other transcendental nonsense. There have lately been several good papers founded upon these tables in the different medical periodicals of this country, especially in some late numbers of the Lancet; but there still exists so much ignorance upon the subject, that the important conclusions to which they lead cannot be too widely diffused.

Those only who have seen bad cases of confluent small-pox, where it is impossible to recognise the features in the mass of black eruption which masks the face, can have any adequate conception of this most horrible and disgusting disease; and the danger to life is as great as it is hideous; for even now, under all improvements, and the best known treatment, from 30 to 40 per cent. of those attacked die: and those who recover are left in a state of debility, predisposing them to fall victims to other diseases, which they might otherwise have surmounted; and it is well known that blindness is more frequently produced by this than any other single cause: hence the blind you see in the streets are so often pitted with small-pox.

The extraordinary mortality of this disease, shewing that it may be much worse than the cholera, plague, yellow fever, or any other affliction to which mankind is subject, was well instanced in 1790, during the war against Tippoo Sultaun. He devastated the country of Travancore and Malabar, sending the inhabitants into captivity, according to his usual savage warfare; and among these unhappy beings was a small division of eighty young women, selected for the service of the royal kitchen, to grind corn and other menial offices; these were attacked with small-pox as soon as they reached the mountainous country, and such was the fatality that only one arrived at Seringapatam*.

One of the means practised for a long time in the East to mitigate this dreadful scourge was inoculation, or producing the disease artificially in a healthy person under proper precautions; this, it is well known, was introduced into Europe by Lady Mary Wortley Montague, in 1722; but for the eighty years it was practised, the number of deaths from small-pox was rather increased than diminished; for every patient in whom that process was going on, could communicate the disease in its worst form to others—each was, in short, a focus of contagion; and as it was found impossible to enforce a proper seclusion of the affected, the result was, that inoculation insured a perpetuity and universality of small-pox, insomuch that the practice was prohibited in Paris, in 1763. In 1786, the Empress Catherine invited Baron Dimsdale from this country to St. Petersburgh, and she and her son Paul were inoculated with small-pox matter. This made the practice fashionable; and it became so prevalent in consequence, that, according to Sir Alexander Crichton, previous to the introduction of vaccination, every seventh child born in Russia died of small-pox. But independently of the danger to the community and to the individual, inoculation did not always afford protection against a subsequent and even fatal attack of small-pox. I myself have met with several cases of persons attacked with natural small-pox, who had been inoculated before the discovery of vaccination, and had been very severely affected with the disease; for the artificial disease is sometimes fatal. Indeed, a claim to protection cannot well be maintained for inoculation, when the natural small-pox itself sometimes fails. This was instanced in a virulent epidemic at Copenhagen, where, according to Möhl, one-sixth of those attacked had had small-pox before, and at Marseilles, in 1828, where a greater proportion died of those who had had small-pox before, than of those who had been vaccinated. The same took place in Edinburgh, in 1818-19, and at Norwich, 1819; and as the suscep-

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* Vide Col. Mark Wilks, vol. iii. p. 64.

tibility to small-pox and vaccination is the same, a farther proof may be drawn from the successful vaccination of grown persons who were *pitted* with small-pox. Of 297 such, in the kingdom of Wirtemberg, the result was, 95 good, 76 modified, and 126 no effect; or of every 100, 32 good, 26 modified, and 42 no effect; which would leave at least 32 per cent. liable to a second attack.

To this mischief and failure of inoculation, is opposed, in bright contrast, the philosophical and brilliant discovery of Jenner, at the end of the last century—viz. the substitution of a mild and non-contagious disease. Into the history of this discovery it is not my intention to enter; but I will only observe, that there is so close an affinity, so evident and strong an analogy, between vaccination and small-pox, their protective powers being nearly identical, those who have had one, being unsusceptible for a certain time of the other, and those unsusceptible of one being equally so of the other, that I cannot help agreeing with Jenner in considering the two as modifications of the same distemper. The protective powers of vaccination gradually decrease, and the susceptibility to small-pox returns in the same proportion; and again, *re*-vaccination succeeds in proportion to the time which has elapsed since the original vaccination. The great resemblance, if not identity, in the course of pustulation; and, above all, the great facility with which every circumstance relating to both can be explained on this principle; these are so many proofs, though I admit not conclusive ones, of the correctness of this supposition.

Notwithstanding the utility of vaccination was recognized by parliament, and by all the great and learned on the continent, and that medical men in all parts of the world bore the most unequivocal testimony in its favour, there were not wanting enemies to the new plan; and among others who wrote against it were Dr. Rowley, and especially Dr. Moseley, physician to the Chelsea Hospital, who saw, in distinct prospect, an awful aggravation of human ills from the admixture of beastly humours which the cow-mania, as he called it, threatened to inflict us with. Cases were published in which vaccinated persons became covered with hair, and even exhibited horns and a tail; and that of a child at Peckham was cited, whose natural disposition was so brutified that it ran on all fours, bellowing like a cow, and butting with its head like a bull: in short, they wanted to make people believe that the human form divine would end in a species of minotaur.

"Semibovemque virum — semivirumque bovem."

Among other witticisms produced by this idea, is the following:—

"O, Moseley! thy book nightly phantasies rousing,
Full oft makes me quake for my heart's dearest treasures;
For fancy in dreams oft presents them all browsing
On commons, just like little Nebuchadnezzars.

"*There*, nibbling at thistles, stand Jem, Joe, and Mary,
On their foreheads, O, horrible! crumpled horns bud;
There Tom with a tail, and poor William all hairy,
Reclined in a corner, are chewing the cud."

Still vaccination bore down all opposition by its effects, which were at first extremely striking, as may be seen by those tables.

Total Number of Deaths from Small-pox—

In the whole Kingdom of Sweden.		In Copenhagen, the Capital.	
1782 to 1791 inclusive,	47,587	1768 to 1778 inclusive,	2,224
1792 — 1801 ———	44,184	1778 — 1788 ———	2,028
1802 — 1811 ———	14,904	1788 — 1798 ———	2,920
1812 — 1821 ———	3,309	1798 — 1808 ———	724

For the first five years of the present century there was not one case of even modified small-pox after vaccination, in Copenhagen. In Norway, in 1810, vaccination was rendered imperative by Government; no one could be admitted into any public establishment, nor even be confirmed or married, without a certificate of having been vaccinated; and from that year till 1819 no small-pox epidemic was known. Ceylon for centuries had been so ravaged by this disease, that the inhabitants fled from their towns and villages on its approach in the greatest terror, preferring the miseries of hunger, and leaving their homes to be overrun by wild beasts; but by the gradual introduction of vaccination it became extinct in the whole of the British possessions in the island; and from 1810 to 1819 the disease was not known. This created an apathy and indifference; the protection was more and more neglected; and the following year, 1820, 7,874 cases occurred, of whom 2 in 5 died, or 40 per cent. This awful punishment induced them again to have recourse to vaccination; and small-pox again disappearing, shewed in a most remarkable

manner the coincidence of the epidemic with the gradual neglect of vaccination.

Jenner was fully aware that vaccination did not protect the individual for the whole period of life; yet many believed that it did, which, as I have already shewn, is attributing to vaccination more than is due to inoculation, or even to small-pox itself. This led to many disappointments, from the number of cases which occurred after vaccination, and which have been gradually increasing since its discovery.

The proportion of secondary small-pox after vaccination, received into the Small-pox Hospital, at King's Cross, to the whole number admitted, was, in

1809, 1 in 36
1810, ... 30
1811, ... 15 } or 1 in 23 in 7 years.
1814, ... 20
1815, ... 17
1818, ... 6
1821, ... 4 } or 1 in $4\frac{1}{2}$ in 7 years.
1822, ... $3\frac{1}{2}$
1838, ... $2\frac{1}{2}$, or 2 in 5.

It must be borne in mind, that the result in this case is much modified by the total number of the vaccinated daily increasing.

These failures are much better looked in the face, and met than by slurring them over by such excuses as imperfect vaccination, bad matter, &c., which it has been of late but too much the practice to do, thereby shutting our eyes to the facts, instead of investigating them and endeavouring to find a remedy.

One of the most obvious means of accounting for the increase of failure, is the deterioration of the matter passing through so many individuals, suggesting a recurrence to the cow; and this is generally thought to be the case, in a certain degree, by authorities on the continent and in this country, with some few though eminent exceptions. By the kindness of Dr. Bright I received some matter which was taken from the cow by Mr. Estlin, of Bristol, in August last, in the very county whence Jenner originally derived it, and which I have certainly found more active, producing larger and finer vesicles, and more marked constitutional symptoms, than the old: and some medical friends to whom I have given a supply have said that it recalled to them the disease such as they recollected having seen when inserted by Jenner himself. I have kept up a supply ever since, and am always happy in being able to offer it to any one who wishes to make trial of it.

But a more undoubted source of failure, gentlemen, and one to which I wish more particularly to direct your attention, is that the efficacy of the vaccine virus is diminished, and even entirely nullified, by remaining in the constitution of the individual, subject to its changes, and more especially that important modification of the system which takes place at puberty; that eventful epoch of life evidently exercising an important influence in this respect, and putting vaccination to the severest test; the maximum of cases of secondary small-pox happening at the period immediately following it. The evidence of this is so overwhelming as to render it impossible for any one who even takes a glance at those tables to doubt a moment on the matter. They fully prove that the frequency and danger of small-pox is in proportion to the lapse of time after vaccination; affecting with violence grown persons who had been vaccinated in infancy, and sparing infants and recently vaccinated adults.

Cases of Secondary Small-Pox after Vaccination.

Age.	London. Gregory.	Wirtemburg. Heim.	Copenhagen. Möhl.
under 10	12	94	82
10 to 20	242	404	356
20 to 30	286	502	209
above 30	22	22	6

This liability to small-pox the older the individual is, be it remembered, is the reverse of what takes place as a law of the contagion of natural small-pox.

Cases of Small-Pox among those who had neither been Vaccinated nor Inoculated.

Age.	Norwich. Cross.	Paris. Mathien.	Age.	Copenhagen. Möhl.
under 10	520	203	under 2	229
10 to 20	7	63	2 to 15	162
20 to 40	3	55	16 to 25	98
above 40	0	2	above 25	71

Again, the mildness of secondary small-pox before maturity is well exemplified in Dr. Geo. Gregory's Report of the Small-pox Hospital for the year 1838:—

Age.	Unvaccinated.		Vaccinated.	
	Admitted.	Died.	Admitted.	Died.
under 5	42	20	0	0
5....10	37	11	5	0
10....15	30	8	25	0
15....20	104	32	90	6
20....25	105	50	106	17
25....30	45	23	55	8
30 ...35	12	7	13	1
above 35	11	6	4	0
	396	157	298	31

From this table, it will appear that the vaccinated formed two-fifths of the whole number admitted; that the mortality among the vaccinated was about 40 per cent.—among the unvaccinated, 10 per cent.—and that was much increased by six of these dying of superadded typhus fever, three of erysipelas, and one of diarrhœa; and, above all, it is to be remarked that not one death occurred under 15.

Dr. Gregory states, and no one can speak with more experience and well-founded authority on this subject, that all the severe cases he had seen, without a single exception, occurred 15 years after vaccination.

In Sweden, 1822, 103 deaths occurred from small-pox after vaccination, all above 15.
„ 1835, 47 ditto, all between 19 and 35.
Copenhagen, 1828-9, 29 ditto, all adults but one.
„ 1832, 10 ditto, all above 22.
And not one case, much less a death, among those adults who had been re-vaccinated.

This brings us to the last and most important part of our subject—RE-VACCINATION; and here we cannot do better than again refer to the Prussian and Wirtemburg tables, which have been drawn up with such accuracy by order of their enlightened governments.

Result of Re-vaccination in Prussian Army.

	Total Number.	Successful.	
1833 ..	48,478 ..	15,269 or 31	per cent.
1834 ..	44,454 ..	16,679 37	„
1835 ..	39,192 ..	15,315 39	„
1836 ..	42,124 ..	18,000 43	„
1837 ..	47,258 ..	21,308 45	„

Result per cent. of more than 44,000 *Re-vaccinations in the Kingdom of Wirtemburg.*

	Good.		Modified.		No Effect.
Circle of the Neckar	57	....	23	....	20
* Ditto, Black Forest.....	29	....	26	....	45
Ditto, Jagst	70	....	5	....	25
* Ditto, Danube	27	....	35	....	38
Throughout Departments	51	....	18	....	31
Military.....	34	....	25	....	41
Average	46	....	20	....	34
To those marked with small-pox	32	....	26	....	42

The marks of a prior vaccination, though perfect, are no criterion whatever as to its protective influence. During the last year there were excellent cicatrices in the very worst cases in the Small-pox Hospital: one had as many as five. When re-vaccination was first practised by the Prussian government, it was only performed upon those soldiers who did not exhibit cicatrices, having the characters indicated by Dr. Gregory, of London; but in consequence of the severe epidemics, it was universally practised without exception: thus in 1837, of 47,258, the gross number re-vaccinated,

37,299 had good marks of a prior vaccination,
6,903 doubtful,
3,056 no trace,

yet the results were—

Regular in 21,308
Modified in 10,557
No effect in 15,393

The effects of *re*-vaccination are almost as striking as the original introduction of the disease: thus, in the Prussian army there were—

	Cases of secondary Small-pox.		Deaths.
1834	619	....	38
1835	259	....	5
1836	130	....	9
1837	94	....	3

* Mostly children.

mostly recruits, attacked before they could be vaccinated; small-pox being on the increase among the inhabitants of the country generally.

I feel that I could safely appeal to any of the profession who have given their attention to the subject, in saying that the number of those grown people who have been re-vaccinated with success in this country forms a large proportion to those in whom that process is either modified or of no effect—perhaps not quite so large as in the tables you see hung up in this theatre; but I think very nearly so. As far as my experience goes, I should say that one in four is successful, and that the proportion is greater in women.

There are some philosophers who say that the whole structure of the body is changed in identity, by dint of nutrition and absorption, every seven years, and it is perhaps from this crotchet that re-vaccination has been recommended by many to be performed as often, which, in my opinion, is much more than is necessary, or the public would be induced to follow. I should say that, having regard to the preceding facts, all the deaths happening after maturity, *one* re-vaccination is sufficient, and that the age of FIFTEEN, or that of puberty, would ensure generally an effective one, if the protective influence of the first vaccination had been impaired by the attainment of the full development of the body. Of course, if that age be passed without re-vaccination, each year will only make the necessity the stronger; and I have little doubt but that if vaccination and re-vaccination were carefully and universally put in force, no severe case of small-pox would happen; and, with this view, it cannot be too earnestly pressed upon the profession and the public. If I shall have contributed in any respect to this most desirable object by the diffusion of the labours of others, I shall be most amply rewarded.

"OXYGENOUS AERATED WATER."

SUCH is the name given to a super-saturated solution of nitrous oxide in water, as prepared by Mr. Searle. Our readers may remember this gentleman as having taken a very active and useful part in the investigation of cholera a few years ago. In a little pamphlet which he has just published, he describes as exceedingly grateful the effects of nitrous oxide when taken into the stomach. The "aerated water" is to be had at Savory and Moore's, Waugh's, and various other chemists; and, we think, is well worth trying. It is, at all events, a very agreeable sparkling beverage.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 9.

John Septimus Alderson, Everingham, Yorkshire.—George Charles Rigden, Maidstone, Kent.—Wellington Blucher Platoff Lane Doran, Chipping Ledbury, Gloucestershire.—Thomas Sayle, Leeds, Yorkshire.—Frederick Leopold Pulling.—George Grant, Northampton.—Harry Dove, Debenham, Suffolk.—Dan. Gilpin Thackeray, Nottingham.—Bethune Horsbrugh, Lochmalony, Fifeshire.—J. Houldsworth Brown, Skipton-in-Craven, Yorkshire.—Thomas Morris, Peckham, Surrey.—Robert Spencer Shield, Chester-le-Street.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *May* 14, 1839.

Abscess	1	Fever, Scarlet	4
Age and Debility	19	Hæmorrhage	1
Apoplexy	2	Hooping Cough	3
Asthma	3	Inflammation	9
Cancer	1	Bowels & Stomach	2
Cholera	1	Lungs and Pleura	2
Consumption	27	Locked Jaw	1
Convulsions	15	Measles	3
Dentition	4	Rheumatism	1
Diarrhœa	2	Scrofula	1
Dropsy	6	Small-pox	1
Dropsy in the Brain	1	Unknown Causes	59
Erysipelas	2		
Fever	3	Casualties	

Decrease of Burials, as compared with the preceding week . . . 89

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

May.	THERMOMETER.		BAROMETER.	
Thursday . 9	from 45	to 52	29·80	to 29·79
Friday . . 10	40	55	29·79	29·91
Saturday . 11	42	58	30·05	30·06
Sunday . . 12	39	49	29·94	29·95
Monday . . 13	41	61	29·88	29 64
Tuesday . . 14	34	48	29·53	29·45
Wednesday 15	28	48	29·36	29·39

Prevailing wind, N.

Except the 11th and morning of the 13th, generally cloudy, with frequent and heavy showers of rain; hail at times on the 14th.

Rain fallen, 1 inch and ·175 of an inch.

CHARLES HENRY ADAMS.

MR. ALCOCK'S PAPERS.

Mr. Alcock's paper intended for this number is unavoidably postponed, in consequence of the engravings not being ready. We have pleasure in directing attention to this valuable series of papers—more especially to those "On Injuries of the Head and Spine," which contain doctrines considerably different from those generally advocated.

NOTICE.

Mr. Borthwick's letter appears to us to be unnecessary after the explanation already entered into.

WILSON & SON, Printers, 57, Skinner-st., London.

(EXTRA LIMITES.)

A LETTER

TO THE

EDITOR OF THE MEDICAL GAZETTE,

IN REPLY TO

DR. HAMILTON'S OBSERVATIONS.

By Edward Wm. Murphy, A.M., M.D.

Late Assistant-Physician Dublin Lying-in Hospital.

Sir,

The observations of Dr. Hamilton on my paper in the Dublin Journal are of such a nature, that my first impression was to suffer them to pass unnoticed; however, as statements and charges emanating from the professor of a distinguished university receive an importance from the position of the accuser which they could not otherwise obtain, it is with much reluctance that I resume, in the pages of the Medical Gazette, a discussion carried on through the medium of the Dublin Journal quite long enough for any useful purpose. So long as the collision of opinions may have the effect of eliciting truth, controversy is useful; but when it degenerates to mere angry altercations, it becomes only a struggle for victory; and the more violent the contest, the more is its utility destroyed, and the more does the unprejudiced observer become indifferent to the result. Such appears to be the point to which the controversy above alluded to is fast hastening; and were it not for the reasons already stated, I would willingly leave the reader to form his own opinion from what has been already written on the subject.

Having entered into a full examination of Dr. Hamilton's letters, with as much freedom from asperity as the subject would admit of, and having abstained from any language which could be interpreted as disrespectful to Dr. H. (unless, indeed, exposing the weakness of his assertions, and his unfair manner of supporting them, be considered in that light), I confess I read with no little surprise what Dr. H. intends for a reply, which, without touching a single argument I had advanced, or disproving the facts I had brought forward, makes up the deficiency by "Specimens of Dr. Murphy's misrepresentations;" "Evidences of Dr. M.'s ignorance of the principles of midwifery;" and "Proofs of the dangerous tendency of the modes of practice in laborious labours advocated by Dr. M. and his late master."

It is scarcely necessary for me to do more than to expose this expiring effort of Dr. H.'s, apprising the reader that it has about as much to say to the real question at issue as it has to the merit of a calm and rational document. A very brief statement will inform the reader what that question was, as well as the grounds which led me to its examination. Dr. Collins having had charge of an extensive hospital, in which there was the widest field for observation which could be desired, published a report of his practice, in such a manner as would be best calculated to condense in a reasonable space the immense body of facts which came under his notice. In doing so he did not seek the empty reputation of detailing a lengthened account of his successful cases, but rather, for the purposes of truth, gave a brief outline of his practice, merely enumerating the cases, in most instances, where that practice succeeded, and giving the leading particulars of those in which it failed. In order that all might be given, it was necessary that each should be curtailed; and thus a work was published which, to the attentive inquirer, afforded much valuable information, but to the superficial reader, in some parts, would seem to be only a collection of bad cases. Amongst many other subjects, Dr. Collins treated of the management of tedious and difficult labours. He states as the result of his experience of the duration of labour, that "we must be guided as to the propriety of giving assistance chiefly by present symptoms and previous history, and not by the length of the labour, as some will suffer more in thirty

hours than others in ninety*." That "he considers the forceps quite inapplicable where the head becomes fixed in the pelvis, and that the ear cannot be reached except by violence, in consequence of disproportion existing between the head and the pelvis, either owing to the former being unusually large, or the latter under size; in most instances measuring little more there than three inches from pubes to sacrum, and in others less than this†." In discussing the treatment of those difficult cases which may require perforation, he objects to the practitioner forming his estimate of the existing disproportion by vaginal examinations, or to make it a ground of interference. "That so long as the head advances ever so slowly, the patient's pulse continues good, the abdomen free from pain on pressure, and no obstruction to the removal of urine, interference should not be attempted unless the child be dead‡." In those cases of laborious and difficult labour, when the head does not advance, and the disproportion is so great as to require the perforator—if properly managed, the death of the child takes place before the symptoms become so alarming as to cause any experienced physician to lessen the head §; and hence infers the great value of the stethoscope in giving an earlier intimation of that event than can in any other way be ascertained.

Soon after the appearance of Dr. C.'s work, Dr. H. published his "Practical Observations," in which doctrines diametrically opposite to these are given as the result of half a century's experience. "That the first stage of labour should be completed within fourteen hours, and the whole labour in twenty-four, reckoning from the beginning of the labour throes‖." That if the infant becomes wedged in the passage, and be within reach of the forceps, "the practitioner is imperiously called upon to interfere, before there is a probability that the pressure may destroy the infant's life, and certainly before any untoward symptom threaten the mother¶."

That the forceps, if properly employed, can do no harm, "while, by diminishing the bulk of the infant, it enables the practitioner to lessen as well as to shorten her sufferings;" and as an explanation of this precept, it may be added, the objection made to Dr. Collins is, "that the instrument employed (by him) had certainly not been calculated to lessen the head of the infant to the degree which it can bear with impunity—viz. to three inches between the parietal protuberances*." "Dr. H. cannot imagine a case of laborious labour, which had been much protracted, where the knowledge of the state of the infant can be necessary to regulate the practice. If circumstances permit the safe use of the forceps, that instrument should be employed, admitting the necessity for interference, whether the infant be dead or alive; or, on the other hand, if, from previous mismanagement or other circumstances, it would be unsafe to use that instrument, it ought not to be ventured upon, even though the infant be alive†." Hence Dr. H. inferred that the stethoscope was useless. Such were the questions to decide; and when the opportunities of experience claimed by Dr. H. are considered, and the importance of these practical points are estimated, the interest which would attach to Dr. H.'s work, had he, like Dr. Collins, given a candid record of his practice, and built his assertions solely upon the facts brought forward, may readily be supposed. In place of this more natural method, Dr. H. adopted one as disingenuous as it was useless. Dr. Collins's work is made to support Dr. H.'s opinions by a perversion of criticism, and an ingenuity of quotation, which Dr. H. alone could effect. Passages in which Dr. C. speaks of those cases in which the disproportion is so great as to require the perforator, and the symptoms of danger indicating its necessity given, are all advanced by Dr. H. to prove, "by Dr. Collins's own shewing, (p. 105, Part ii.), the injurious effects of protraction, where there is little or no disproportion. In fact, the most part of Dr. C.'s directions for the management of cases of great disproportion‡, are quoted and criticized in Dr. H.'s section on the second order of laborious labours§, which include all cases where there is little or none; and not only so, but the very cases which, in consequence of great disproportion, were delivered by perforation, are referred to by Dr. H. as proofs of the injurious consequences of procrastination, in cases of that order. So complete a perversion of Dr. Collins's sentiments and practice obliged him again to explain his views, and to point out these errors in the Dublin Journal for March 1837, to which I refer the reader for a more complete *exposé*. Dr. Hamilton replied to Dr. C. in three letters, addressed to the MEDICAL GAZETTE‖, 1837; and if he considered himself aggrieved at "an attack so unex-

* Collins, p. 8.
† Ibid. p. 12.
‡ Ibid. pp. 17 and 18.
§ Ibid. p. 16.
‖ Hamilton, p. 42, Part ii.
¶ Ibid. p. 106, Part. ii.

* Hamilton, p. 112, Part ii.
† Ibid. p. 108, Part ii.
‡ Collins, from page 15 to 19.
§ Hamilton, p. 93, Part ii.
‖ Nos. 37, 43, and 47.

pected and uncalled for," as he represents Dr. Collins's paper to be, he certainly took an ample revenge. Under the transparent disguise of upholding his precepts, he selected a few of the worst of these cases, and on the strength of his own reading of the brief outline which was given of them, gave vent to animadversions in which few professional men would indulge, but which would be quite sufficient to appease the most splenetic temper. Of these letters Dr. Collins took no notice, and the controversy appeared to have ceased. But "ecce iterum Crispinus." In the year following (1838), Dr. H. addressed a letter to the Editors of the Dublin Journal, under the pretext of instructing the Irish students in the truth of his opinions; but which, in fact, was merely a second edition of the same cases, with more copious notes, equally unprovoked as they were discreditable*. "This Dr. M. has called inviting a controversy;" and without any burst of affected indignation against calumnies and misrepresentations, for which Dr. H. has given quite sufficient cause, Dr. M. appeals to the facts themselves for evidence. A perusal of Dr. H.'s first letter to the Dublin Journal will satisfy the reader whether Dr. H. meant to defend himself from calumnies, or to censure the practice of the Dublin Lying-in Hospital. Labouring as I am under the delusion that the latter was the fact, I again reiterate "the absurd charge" that Dr. H. ought to have published a faithful record of his practice in the Edinburgh Hospital, before he hazarded gratuitous censures upon a practice of which he had no other cognizance than a mere abstract of cases, which he misunderstood, and many of which I have proved him to have misrepresented. The appearance of Dr. H.'s letter rendered a reply unavoidable; to which Dr. H. rejoined in a manner nearly similar to this his last effusion. Unable to meet Dr. C.'s arguments, he charges him with misrepresentations, falsifying of records†, &c. &c.; and waxing wroth on those fancied injuries, declares he can have no further communication "with that individual."

In May 1837, a paper was inserted in the Dublin Journal, on the management of the first stage of labour, for the purpose of determining, if possible, contradictory rules of practice, by the results of practice itself, taken in the most extensive range. In it reference to the opinions of Dr. H. had been made, and applied to the test of recorded facts. On one point it appeared that Dr. H. had been misrepresented; and the consideration of the remaining stages of labour was delayed until, along with other opinions, those of Dr. H. could be examined with more certainty; that, however, soon became impossible; "confusion became worse confounded;" and finally, as Dr. H. complained of misrepresentation, had objected to the test to which I applied his doctrines, as being data upon which "no logical reasoner could place any dependence," and had given a most erroneous view of the practice of the Dublin Lying-in Hospital, it appeared to me more advisable to examine separately Dr. H.'s opinions, arguments, and facts. I shewed the ambiguity which led to misrepresentation, examined Dr. H.'s objections to the test of hospital reports, pointed out the erroneous conclusions which must follow by arguing from particular cases as to a practice of which the whole results had been given, and proved that even these cases were, in many instances, misunderstood and unfairly commented upon. In doing so, I

* Amongst many charges of negligence and inattention on the part of the medical officers of the Dublin Lying-in Hospital, which Dr. H. indulges in, of one of the cases he observes, "Had the circumstances narrated in this case occurred in England, in a parish workhouse, the conduct of the medical attendants would undoubtedly give rise to subsequent inquiry."—Dublin Journal, vol. xiii. p. 214.

† Dr. H., in allusion to my "reiterating the absurd charge," says, "This he (Dr. M.) has the *hardihood* to do, after Dr. H. has convicted his late master of a deliberate falsification of the records of that hospital, by suppressing half a sentence, and by interpolating certain words." The foundation of this assertion is as follows:—At the conclusion of Dr. H.'s last letter to the Medical Gazette (August 19th, 1837), he intended "to surprise the gentlemen connected with the great establishment in Dublin" with the fact, that by a report presented to the managers of the Edinburgh General Lying-in Hospital, 15,936 women had been delivered previously to Oct. 1836, at the very small expense (not annual) of £10,214 13s. 8d. Where were they delivered? No distinction into classes was made, and this astounding enigma would have remained unexplained had not Dr. C. met with an annual address of the year 1834, by which it appeared that up to that period "5193 patients have been delivered in the hospital, and 9,126 out-patients have been attended at their own houses, at an expense not exceeding 9,650*l.*" Dr. C. immediately, in reply, stated that "only 5,198 patients were delivered within the walls of the Edinburgh hospital," and Dr. H. retorts by charging Dr. C. with the omission of the half sentence which referred to the out-patients, and interpolating the words "within the walls," as if that was not essential in order truly to estimate the expense comparatively with the Dublin hospital, from which question, in thimble-rig fashion, Dr. H. slips to the number of cases attended by the medical attendants; not the number of patients supported in the hospital. Dr. H., in the first instance, should have stated fairly the number of patients in each class, and not, by giving only the aggregate, make it appear that there was only one. He now repeats this charge, though he acknowledges never to have looked into Dr. C.'s reply to it. Perhaps Dr. H.'s "two intelligent friends" could supply him with some epithet to characterize such conduct: certainly the word "hardihood" is inadequate.

am not conscious of having indulged in any personalities; nevertheless, to that article is the reply which has appeared in the 27th No. of the MEDICAL GAZETTE.

From this brief history the reader can readily judge of the importance of the practical questions to decide, as well as the opportunity that was offered, had Dr. H. adopted a different course, of determining rules of practice by a strict and impartial examination of facts brought forward *on both sides*. They were given only on one; and the very candour with which they were stated has been the means made use of to misrepresent them. It has given Dr. H. the opportunity of compensating for the total absence of any evidence of his own, by selections from the worst part of that brought forward by Dr. Collins. While we have, therefore, Dr. C.'s valuable treatise to aid us, by a comparison of opposite facts, in forming an opinion of one mode of practice, we find in Dr. H.'s little more than positive assertions, without a shadow of evidence to help us in investigating one altogether different.

If Dr. C. states as the result of his experience, "that we must be guided as to the propriety of giving assistance by present symptoms, and not by the length of the labour," and refers his reader to the *whole* of his facts *pro* and *con.*, to form his own opinion; Dr. H., on the other hand, insists "that the sufferings of the women should almost never be allowed to continue longer than twenty-four hours, reckoning from the beginning of true labour throes" (p. 42, Part ii.) — states strongly the fact that "no patient under his care, for thirty-five years, had been above twenty-four hours in labour, and excepting in cases of disproportion none so long;" and silences every doubt by an appeal "to the testimony of the public opinion of the city of Edinburgh*." On such a basis it is evidently not very easy to maintain a controversy; and Dr. H. finding the whole weight of evidence both of the Dublin and other lying-in hospitals against him, and that he has nothing to oppose to it but the worst of Dr. C.'s crotchet cases, and the above rather equivocal test, with the skill of a practised tactician he changes his ground, takes up a position where his opponent in his own defence must follow him, and which, at the same time, gives Dr. H. the opportunity of making this new demonstration a cover for his retreat.

Such, in the present instance, are Dr. H.'s tactics; and while I find the arguments and facts brought forward in my former paper perfectly untouched, I have now to meet the Doctor on charges of misrepresentations — assertions of ignorance of midwifery, &c. &c.; which, of necessity, must receive an answer as remote as possible from the question which had been under discussion. The reader, therefore, will pardon me for occupying his attention with merely personal considerations, and will, I feel assured, grant to me an impartial attention while I examine Dr. H.'s statements.

The first charge of Dr. H. is against the Editors of the Dublin Journal, to which they are, of course, quite competent (if they please) to give him a satisfactory reply. But certainly Dr. H. must have supposed them to set a very moderate value on the character of their journal, to have admitted "observations" so completely personal as those I am about to notice, in reply to a paper not containing a single personality. A charge of "having given insertion to observations misrepresenting and falsifying doctrines," and "of sanctioning misstatements," comes well from Dr. H., to whose first letter they had given insertion, notwithstanding he had previously replied to the same letter through the MEDICAL GAZETTE; the contents of which (though unknowingly to them at that time) was precisely of the character above described.

It is hardly necessary for me to allude to Dr. H.'s attempt to shift from himself the onus of having invited a controversy which appears not very likely to terminate to his advantage. The facts which I have stated speak for themselves, and, if the reader have any doubt on his mind, a perusal of the letter alluded to will abundantly satisfy him. Having thus disposed of Dr. H.'s "preliminary remarks," I have to consider *seriatim* Dr. H.'s three propositions. "Firstly, Dr. H. lays before the reader a few specimens of the most flagrant misrepresentations, with which he charges Dr. Murphy;" the first of which is most uncandidly alleging an identity of practice between Drs. H. and Burns, on the subject of artificial dilatation of the os uteri. In reply to this I have to state, that before that paper appeared, Dr. H. had already denied artificial dilatation to be his practice, and founded upon that denial a charge of misrepresentation against Dr. Collins, in which I was equally involved. So far, therefore, was I from assuming an identity of practice (once being denied) between Drs. H. and B., that on the fact of their not being identical I proved, from the extreme ambiguity of Dr. H.'s language, the mistake into which I had been led; and after having quoted passages from each author to prove it, I added, "It is essential to point out these ambiguities, in

* Dublin Journal, vol. xiii. p. 204.

order to shew the source of those misrepresentations of which Dr. H. so much complains*." Had Drs. H.'s and Burns' practice been identical, Dr. H.'s language would not have been ambiguous.

The second instance of misrepresentation, is, that "Dr. M. has given a most garbled and disingenuous report of Case 210, p. 465," (Collins). The case to which Dr. H. alludes is one of seven already detailed at length in Dr. H.'s letter, to which I was then replying. I therefore did not give the case again at length, but only so much as would explain my meaning; but at the same time, to prevent the possibility of such a charge as Dr. H. has made, I gave, not only the number of the case in Dr. Collins's work, but also the letters under which Dr. H. had arranged them. I find this case thus stated:—"The first is No. 210 (Case A), p. 465†." If I am liable, therefore, to Dr. H.'s accusation, I willingly admit that I have been most unintentionally guilty of "habitual misrepresentations;" as none of those cases to which I referred were given in full. But I am charged "with having suppressed certain important facts‡ which are necessary to render it intelligible, and also of having founded, upon the suppression of those facts, certain injurious accusations against him," (Dr. H.)

"Firstly, Dr. M. says that the woman had been in labour from the 20th till the 23d of February; whereas the record bears, that 'she was admitted on the 17th, with the liquor amnii dribbling away, and that pains began on the 18th, and continued on the 19th.'

"Secondly, he has suppressed that, 'on the 20th the head of the child was found low in the pelvis, the edges of the os uteri thin and lax, the pains had returned in an urgent form,' and that 'the woman had expressed herself as suffering the most acute distress.'" The record bears—that "a woman of a most fretful and anxious disposition was admitted, February 17th, to be confined of her first child. On the night of the 18th she complained of *pain and uneasiness, which she supposed was her labour;* yet there was no dilatation of the os uteri. The next day (19th) she still complained of *some uneasiness*, but slept the entire of that night. On the morning of the 20th the *pain and uneasiness* returned in a more urgent form, and she expressed herself as suffering the most acute distress; still there was *no dilatation of the mouth of the womb;* it was quite thin and lax, and the head was low in the pelvis. The pain continued during the night. The following morning (21st), at 9 A.M., the os uteri was dilated to the size of half-a-crown, but the pains had not assumed a bearing-down character*."—Thus the pains, which "began on the 18th and continued on the 19th," are described in the record "as pain and uneasiness, which *she supposed* was her labour; that on the next day she still complained of *some uneasiness*, but slept the entire of that night; that even on the 20th the same pains returned, only in a more urgent form, nor was there any dilatation of the mouth of the womb until the following morning (21st), when these irregular pains merged into regular, though feeble, uterine action. Now Dr. H. has "the extraordinary temerity," (to use an appropriate phrase of Dr. H.'s,) to charge me "with suppression of certain important facts of this case;" and in the charge he advances is guilty of the very act of which he complains. He gives as the record, a form of words not in the record, and omits altogether, that though the os tinca was lax and thin, there was no dilatation of the mouth of the womb on the 18th, 19th, or 20th; which, together with the irregular character of the pains (being described as much a sense of uneasiness as of pain), proves regular labour not to have commenced. This is the *more remarkable*, because Dr. H. is perfectly aware "that spurious pains are apt to precede true ones, not only for hours but for days," and gives the following means of distinguishing one from the other:—"The author is most anxious to explain to the junior part of the profession especially, what is meant by protraction of the first stage; for he is every year called in to cases where great mistakes upon this point are committed, chiefly in consequence of supposing spurious pains to be the true pains of labour. He has already hinted at the means of distinguishing the two, and he now repeats, that *spurious pains are irregular in their recurrence, and that they produce no influence upon the edges of the os uteri*†."

The reader can readily decide what would have been even Dr. H.'s estimate of the duration of labour in this case, had it been in his charge, and can therefore appreciate the value of his first and second accusations. The two remaining facts that I am charged with having suppressed, are,—

* Dublin Journal, vol. xiv. p. 403.
† Ibid. vol. xiv. p. 426.
‡ As an instance, "inter alia," of the suppression of important facts of a case (No. 150, p. 464), Dr. H. remarks, that "Dr. Murphy has suppressed the most important fact, that the scalp of the infant was allowed to *protrude through the external parts* for nearly twelve hours." I have only to say, that there is no such fact stated in the case.

* Collins, p. 465.
† Hamilton, p. 222, Part 1.

"3dly. In the authentic record it is stated, that, 'on the morning of the 23d, the pelvis felt of sufficient size to allow the head to pass, and all that seemed wanting to effect this was that the pain should become expulsive;' a circumstance carefully concealed by Dr. Murphy."

"4th. The following report of the case, at 9 P.M. of the 23d, is also suppressed by him:—'On examination, the head was found in the same situation as in the morning; and had it not been that the mouth of the womb still remained over it next the pubes, an attempt would have been made to deliver with the forceps.'"

Here also Dr. H. omits the very next sentence that follows the word "forceps," —viz. "the head was immediately lessened, and *almost every bone removed before it could be delivered.*" No forceps, therefore, (excepting, indeed, Dr. H.'s,) could have delivered a head which the crotchet could hardly extract. Dr. H. is also perfectly aware of the importance of such a fact, because, without even mentioning the statement itself, he makes an ingenious attempt to get over the difficulty it obviously presented to him. In his explanation of this "most melancholy case," he makes it abundantly simple by gratuitous assertions, for which there is not the shadow of a foundation. He assumes, "that the pressure of the head produced such a swelling of the soft parts as to oppose a serious obstacle to the extraction of the infant." "Of course (says Dr. H.) this swelling subsided after death, and could not be discovered by dissection." But why could it not be discovered before death, when, on the morning of the 23d, the pelvis *felt* of sufficient size to allow the head to pass, and all that seemed wanting to effect this was that the pains should become expulsive; and when, in the evening, the forceps would have been tried, but that the dilatation was not completed? Knowing the circumstances under which Dr. C. used the forceps, such a swelling would have been in itself a prohibition. Such are the four charges of suppression of important particulars which I have made: "fortified by which, Dr. M. has had the extraordinary temerity to prefer (what Dr. H. pleases to call) the following accusations," which, notwithstanding that the important particulars are now given, Dr. M. most distinctly reasserts:—

"1st. That Dr. H. gives this case as being of ninety-six hours' duration, though there was no dilatation of the os tincæ till the 21st—sixty hours before delivery.

"2dly. That Dr. H. asserts the cause of delay to be interception of the cervix uteri, though at no period of the labour did the pains become expulsive, and, throughout, the uterus acted imperfectly; the head, therefore, could not have been forced down upon the pubis, so as to intercept the cervix. Dr. H. has therefore assumed a condition of which there is no evidence." This assertion has kindled Dr. H.'s ire so completely, that he seems to have a difficulty, amongst the many epithets which were no doubt pressing themselves into his service, to find terms "which a gentleman would choose to employ," to give vent to his indignation. I cannot explain why the above assertion should have so much disturbed Dr. H.'s equanimity; as he has, however, alluded to it under another head, I shall take no further notice of his observations here, than to state that Dr. M. never asserted that the uterus was not *interposed* between the head of the infant and the bones of the pelvis.

"3dly. That to complete, in little more than two hours, a labour where the pains were so weak as scarcely to produce any effect on the os tincæ, and the utmost difficulty experienced in extracting the child, even when the head was broken up, is a degree of skill which requires something more to make it intelligible than mere assertion." Dr. H. observes, I could not have preferred this very modest insinuation had I not concealed from my readers that the pelvis *felt* of sufficient size to allow the head to pass, and all that seemed wanting was that the pains should become expulsive. Neither could Dr. H. have preferred this well-supported charge, had he not also concealed from his readers the fact, that there was the utmost difficulty in extracting the head with the crotchet, at the very time that the pelvis *felt* of sufficient size to use the forceps; of the importance of which fact he was perfectly conscious.

The next charge of misrepresentation is in reference to the use of the stethoscope. Dr. H., in his letter to the Dublin Journal* (No. 38), quoted eleven cases; two (Nos. 32 and 1091) to prove the injury of delayed delivery while the fœtal heart was acting, and nine to shew the effects of delay for some hours after it ceased. Of the first class, Dr. H. stated that other cases may be quoted, to prove that several women's lives in the Dublin Lying-in Hospital were brought into great jeopardy while the child, according to the evidence of the stethoscope, continued to live.....And yet (observes Dr. H.) the following cases (the nine) shew that the principle was carried still further in the Dublin Lying-in Hospital; for it is admitted, that notwithstanding the alarming symptoms, the sufferings of the patient were allowed to

* Dublin Journal, vol. xiii. p. 223-228.

continue for hours after the death of the infant was believed to be unequivocally ascertained by means of the new method. It may be observed here, that delivery was not effected for some time after the first cessation of the fœtal heart, in order that the death of the infant should be *unequivocally* ascertained by means of the new method. Of the nine cases quoted by Dr. H. but one was fatal, though they were all extracted from a section containing only cases of extremely severe labour, requiring to be delivered by the crotchet. Dr. Collins at once exposed the weakness of this proof. To which Dr. H. replies, as usual, by a charge that Dr. C. "had suppressed the important fact that I (Dr. H.) had copied nineteen cases of that description, and that eight of the women died." A list of these nineteen cases was given, and in commenting upon it, in my former paper, I pointed out four objectionable cases amongst the deaths, and three omissions among the recoveries. On this Dr. H. founds his charge of misrepresentation, to part of which I plead guilty. Of the three cases I asserted to have been omitted from the recoveries, two had been enumerated (725 and 1041); and the third (1053), I freely admit, does not come within the terms of the allegation, that the sufferings of the poor women were allowed to *proceed for hours* after the fœtal heart ceased. The reader will, I am assured, give me credit, when I state that the mistake arose purely from inadvertence in copying lists. But that Dr. H. should assert, that I should adopt so shallow a pretext for imposing on the credulity or supposed ignorance of my readers, when he acknowledges to have committed a precisely similar mistake, but of a far more mischievous effect, and claims that it be considered "a very unintentional error*," is only one of the many proofs which his "Observations" afford of the intemperance into which the embarrassment of his position has betrayed him. Of these nineteen cases, therefore, the recoveries are, as Dr. H. stated, but eleven. Now let the deaths be examined, and, of the eight given in the list, I find I am indebted for five in place of four objectionable cases to Dr. H. Two deaths are again repeated, without note or comment. One (665) a case of puerperal fever, another (605), of which the details are not to be found; and this after the error had been pointed out. Two more Dr. H. attempts to justify. No. 32 he again enumerates, to prove the above allegation, though it is distinctly stated in the case, as Dr. H. has quoted it, "that the fœtal heart having *ceased to beat*, she was delivered by the crotchet." In No. 1091, no operation was required, the woman being delivered naturally. In the remaining case (173), the words "the child was evidently dead, and the pressure on the urethra very severe" (the latter sentence omitted by Dr. H.), are given as reasons for *immediate* delivery. These eight deaths, therefore, when strictly examined, amount just to three, making the proportion of deaths to recoveries 3 to 11—nearly the same as had been stated*.

But while Dr. H. declaims in terms needless to characterize against misrepresentations in his list, he passes by the real objection made to it—viz., that being only a list of selected cases, the ratio of mortality must be inaccurate, even if the list itself were unobjectionable. I stated that "16 of these cases are taken from Dr. Collier's section on Still-born Children, in which is given a short outline of such as possessed most interest in 106 cases of *extremely severe labour*. In this outline *every one* of the cases in which the mother died is detailed or referred to, while several who recovered are only numbered. There were altogether 79 crotchet cases and 15 deaths, of which 3 are related in the chapter on 'Tedious and Difficult Labour;' the remaining 76 are included in this section, of which 41 are detailed, and, among them, all the other deaths which occurred. Beside these, are 30 others (of which 9 cases are given, and 2 deaths). So that among 106 cases of extremely severe labour, there are but 14 deaths, or 1 in 7½; while among 79 delivered by the crotchet, there are 15 deaths, or 1 in 5, in all of which the child being some time dead, or the urgency of the symptoms, were the motives of the operation. From this section Dr. H. has extracted 27 cases, of which 11 are deaths; and from this extract is chiefly formed this last list of 19 cases and 8 deaths†." All these cases being similarly treated to those selected by Dr. H., it is evident that any ratio of mortality can only be derived from the whole. I find it now necessary to add the results of forceps cases, which altogether amounted to 24—14 being for tedious labours, and 10 for complicated. Of these, 4 women died—"not from any injury connected with the delivery ‡"—and 8 of the children were still-born. Notwithstanding, however, that the proportionate mortality of crotchet cases had been already given, the great majority of which operations were performed in consequence of such great disproportion, that "after the most patient trial the imprac-

* Vide note, p. 22, MEDICAL GAZETTE.

* Cases are No. 126, p. 158, H; 477, p. 817, AA; 481, p. 1038, D.

† Dublin Journal, vol. xiv, p. 422.

‡ Collins, p. 15.

ticability of delivery being safely effected*" was clearly proved, yet Dr. H., anxiously seeking for misrepresentations, has not only made no attempt to disprove it, but, in perfect consciousness of its truth, does not hesitate to assert that "*every fourth woman* on whom the perforator and crotchet were had recourse to, died†," and on this misrepresentation manufactures the "appalling fact," that thus in 103 (79 + 24) cases of laborious labours (of the 2d and 3d orders), 24 women and 87 infants were lost, making 111 deaths in those cases of protracted labour. These 103 cases consist of 79 crotchet cases (Dr. H.'s 3d order), 14 forceps cases (Dr. H.'s 2d), and 10 forceps cases of *complicated labour!* and the 111 deaths is made out by the addition of 87 (79 crot. + 8 for.) deaths of infants to (15 crot. + 4 for.) = 24 (!) deaths of mothers. When, therefore, it is considered that the total mortality of mothers amounts to 19, not 24—that of these, 4 belong to forceps cases of two different classes, without any statement as to which they belong—that to this number 24 is added 87 infants, 79 of which were crotchet operations—and of the remainder, some, if not the most part, must be for complicated labours—and all to make a grand total of 111 deaths in 103 cases. The reader will perhaps admit that Dr. H. was sadly straitened for "an appalling fact," and should have been the last to hazard a charge of flagrant misrepresentation. To say the least of it, it is strange to find the medical professor of an established university descend to charge two physicians who had held the respectable situations of master and assistant to the Dublin Lying-in Hospital with having deliberately misrepresented his work by means of garbled extracts and other artifices, and he at the same time guilty, without even the excuse of ignorance, of the very charges he has made—without referring to former instances left unanswered by Dr. H., and taking the evidence alone of his last "Observations;" when he is found to suppress an important fact, in order to sustain a charge of suppression of facts; to re-state one case (605) not detailed, and another inapplicable (665), without remark after the error had been noticed‡, and this to support a charge of "imposing upon the credulity of the reader;" to quote a case as proof of a fact not stated in the case; to give, by a very shallow artifice, a most distorted view of the proportionate mortality in laborious labours; and at the same time to remind us "that sinning against the ninth commandment is universally admitted to be a transgression of a heinous character." He gives evidence of such recklessness in asserting that its very inconsistency encourages a willing doubt that Dr. H. in his cooler moments would not so commit himself. Were it not that Dr. H. had been labouring under the irritation consequent upon his inability to escape from the difficulties with which he found himself surrounded in attempting a reply, he would hardly have been betrayed into the absurdity of quoting a case (No. 32) in which it is said "that the action of the fœtal heart having ceased to beat, she was delivered by the crotchet"—which evidently implies a delivery consequent upon its cessation—and coupling it with a case (1091) where no operation at all was required, observe, "if these be not the cases where the poor women's sufferings were allowed *to continue for hours* after the death of the infant had been ascertained by the stethoscope*," Dr. H. certainly does not understand the English language.

If Dr. H. had not already sufficiently proved his knowledge of the English language, seemingly as familiar with the Dictionary of Gross as of Johnson, and having equally at his command the most courtly phraseology and the language of Billingsgate, his claim would be materially endangered if it depended upon the truth of the above hypothesis. But Dr. H. seems so completely blind to his position, that I cannot help wishing,

"O, wad some power the giftie gie us,
To see oursels as others see us,
It wad fra mony a blunder free us,
And foolish notion;
What airs in dress an gait would lea'e us!
And e'en devotion."

The next topic which Dr. H. has introduced is, "Evidences of Dr. Murphy's Ignorance of Midwifery." On this subject I freely confess that I do not feel myself so completely perfect as to refuse a useful hint even from Dr. H., no matter what may be his motive in enlightening me. I would most willingly adopt the precept, "fas est et ab hoste doceri," and endeavour to profit by his lessons, though they were accompanied by some disagreeable though salutary castigation. But, with every desire to learn, I regret to find I am obliged most unwillingly to instruct. The first evidence of my want of knowledge is in reference to interception of the cervix uteri. "In page 434, Dr. M. has the following words:—'Pressing on or supporting the anterior edge of the os tincæ would of necessity act against the head just in the same way as if two fingers were applied to the head itself, and the

* Collins, p. 488.
† No. 27, MED. GAZETTE, p. 30.
‡ Dublin Journal, vol. xiv. p. 422.

* MED. GAZETTE, No. 27, p. 26.

difference in both cases, where the uterus and not the fingers effect the dilatation, is so slight as to be immaterial; but when the practice is applied where there are no strong forcing pains, and the fingers are, as it were, to supply the place of the uterus, it in no way assists us in understanding how it is to be done.'"

"This sentence (says Dr. H.) seems to impart that it is Dr. M.'s opinion, that pressing with two fingers on the head of the infant during the labour pains has the same effect as pressing upon the anterior edge of the os uteri—he having evidently not understood that during labour the head of the infant is passive, and the uterus the active agent." This is a curious inference from a passage stating "that the difference in both cases, *where the uterus and not the fingers* effect the dilatation, is so slight as to be immaterial." It is first necessary to determine what Dr. H. means by interception of the cervix uteri, which may be collected from his "simple explanation" of case 210. He says, when, on the 20th of February, the child's head was found low in the pelvis, the uterus must have been *interposed* between it and the bones of the pelvis. This Dr. H. has called intercepted, and he sees no reason to alter the expression—(p. 25). What Dr. H., therefore, calls interception is found in all cases of prolapsus uteri, and especially in the kind of case which has led to its discussion—one in which the waters dribbling away early is followed by spurious pains, and the woman making fruitless attempts to force her labour, only drives the undilated uterus down into the pelvis. But that this of necessity intercepts the cervix, is an opinion I believe peculiar to Dr. H. Burns seems unconscious of it; and as I have no desire to become preceptor to the professor of a university, I the more willingly adopt his language. "Labour (he says) may also be rendered tedious by the different stages not going on regularly, but efforts being prematurely made to bear down. In consequence of these, the uterus descends in the pelvis before the os uteri be dilated, and the process is often both painful and tedious. These premature bearing-down pains may often be mitigated by a recumbent posture and the use of a mild clyster to empty the rectum. In some cases the womb prolapses so that its mouth appears at the orifice of the vagina.....*It is often met with in a slight degree whilst the os uteri is not greatly dilated*, and often injures the labour. We are to prevent it from increasing by *supporting the head or uterus with two fingers* during the continuance of a pain" (Burns is ignorant that during labour the head of the infant is passive, and that the uterus is the active agent), "at the same time that the woman avoid as much as possible any bearing-down effort, and remains in a recumbent posture. If the os uteri be slow of dilating, some blood should be taken away, and an opiate administered, or the os uteri gently but completely dilated during successive pains." Such is Dr. B.'s description of, and treatment for, a case of tedious labour, in which the cervix is interposed between the head of the infant and bones of the pelvis; but he not only makes no allusion to the important fact that the cervix must thereby be intercepted, but his treatment is precisely the same as what he recommends for ordinary cases of tedious labour, with the exception of supporting the head or uterus with two fingers during a pain, to prevent the further descent of the uterus. If Dr. H. consider this a case of interception, it is clear that his rebuke upon this latter mode of treatment applies much more to Dr. B. than to me, who meant by interception of the cervix a totally different case. There are cases in which, whether from anterior obliquity of the uterus, or the promontory of the sacrum projecting too much in an otherwise wide pelvis, or that the axis of the brim approaches too near the horizontal line, the direction of the uterine force is not in the line of axis of the brim; if the membranes are prematurely broken, the pains press the head strongly against the pubic margin during the dilatation of the os tincæ, and thus intercepts the anterior lip; consequently, while the remainder of the dilatation advances more or less rapidly, this portion is arrested; if the interception continues, it becomes tumid, painful, and ultimately inflamed; in some instances it has terminated in laceration of the part. To obviate such effects, some have advised pressure against the head during a pain, as well to remove the compression from the anterior lip as to aid in giving the head its proper direction towards the cavity of the pelvis; others prefer endeavouring to press the lip itself upwards, so as if possible to slip it over the head, and above the point of compression, but which attempt, excepting in a very wide pelvis, where the head can pass down along the fingers, produces exactly the same effect in pressing the head upwards. The management of either case presupposes the existence of active labour forcing the head down upon the pubis. It was to such interception I alluded when I stated that Dr. H. seized upon the fact "that a portion of the os tincæ still covered the head of the child," to attribute the delay to interception of the cervix *. And in the same sense, replying to Dr. H.'s accusation, that "in this shockingly misma-

* Dublin Journal, vol. xiv. p. 427.

naged case, instead of assisting the dilatation, an opiate was given," I used the words which Dr. H. has had so much difficulty in finding gentlemanly language to repel. "In order to make this (the above) objection intelligible, he (Dr. H.) asserts the cause of delay to be interception (not interposition) of the cervix uteri, though at no period of the labour did the pains become expulsive, and throughout the uterus acted imperfectly; the head, therefore, could not have been (low in the pelvis? no, but) forced down upon the pubis so as to intercept the cervix." Upon which Dr. H. makes the following lucid remark:—"From this sentence, it is evident that Dr. M. believes that the uterus cannot be interposed between the head of the infant and the bones of the pelvis, without there having been expulsive uterine contractions!" At the same time that I give this explanation of the meaning of the term I had used, and one I believe quite in accordance with the principles of midwifery, I mean not to deny that partial prolapsus of the uterus may be accompanied with interception of the cervix, but then there must be some evidence of it; the os tincæ would not be described as being "lax and thin," or that "all that seemed wanting was, that the pains should become expulsive," in order to effect the delivery. The only fact in the case before us which would at all countenance such a supposition in the absence of every other evidence, is the very one which Dr. H. has taken so much pains to conceal—viz., the great difficulty of extracting the head with the crotchet; and I freely give Dr. H. all the advantage he can make for himself out of the admission. The next point I have to consider in the way of digression is another charge of misrepresentation. In order to demonstrate, in the clearest manner, the propriety of suspending inefficient uterine action by an opiate, in preference to fruitless and harassing attempts "to assist the dilatation," I quoted a passage from Dr. H.'s work. To this Dr. H. has objected, and refers his reader to page 89 of his Practical Observations, pt. 11, for his real meaning, "in which (says Dr. H.) he will find a very different rule for the exhibition of opiates." The passage is as follows:—"The safety and utility of opiates must be very carefully considered before being prescribed. If there be pain in the head, or any circumstance whatever which might render the further protraction of labour for ten or twelve hours injurious, opiates are most dangerous." The very next sentence is that which had been quoted: "*The only utility* of opiates in cases of protracted labour, is *to suspend inefficient uterine contractions, which wear out the strength of the patient*, and there are no marks by which the one result or the other can be calculated upon." Now, I would ask the reader, when the entire of this passage is applied to a case in which I especially dwelt upon, "the inefficient uterine contractions" as being its most prominent feature, and that an opiate was given on the first and only evidence that "they were wearing out the strength of the patient," whether I was not justified in quoting Dr. H. authority. "It is to be noted" that the woman was 60 hours, not several days, in real labour; and that the opiate was given on the first indication of exhaustion. That it failed in its effect may be attributed to a cause which I dwelt upon at length in my former paper.

The next evidence of ignorance is contained in the following words:—"It must also strike the intelligent practitioner that the forceps employed for an hour and a half compressing *such a head* would be a very likely way to produce such an effect (suspended animation); besides, it is not probable that the forceps could be applied without moving the head from its position, and still less that some meconium would not have escaped if at all pushed back, had the child been previously in danger."

From this passage Dr. H. infers my ignorance. "1st. That during the interval of working, the pressure of the instrument upon the head of the infant is to be removed. Compression of the head of the infant by means of the forceps for an hour and a half was never heard of in this part of the world. 2dly. As to the head being moved from its position by the application of the forceps, that is an effect of the application of the instrument totally unknown here." In Dr. H.'s case, "even a bungling operator could not have moved the head from its position, for the record bears (what is the *real truth*) that the head completely filled the pelvis. 3dly. My ignorance that the head of the infant can safely be diminished by approximating the parietal bones." The answer to the first of these deductions would strike any one but Dr. H. How could the pressure of the instrument in the interval of working be removed from a head which even the most bungling operator could not stir from its position? But my meaning in the above passage referred to the compression kept up *during the pains*, for an hour and a half, for the purpose of diminishing the bulk of the child's head. As to the second statement, had Dr. H. confined himself to his own experience it might be intelligible; but when he states, "that moving the head from its position by the application of the forceps, is an effect totally unknown here," I cannot permit such an imputa-

tion upon the practitioners of Scotland to pass without a plain contradiction. On this point I again avail myself of Dr. B.'s authority, from whom, though I differ essentially on some points of practice, I still can appreciate as a valuable writer; to his work, therefore, I refer, as being a text-book of the principles of midwifery—as being decisive evidence what those principles are on Dr. H.'s side of the channel—and especially as being an advocate for the use of the forceps, as nearly approaching to the doctrines of Dr. H. as a rational practitioner could venture to adopt. Burns, speaking of the application of the forceps in cases of impaction, observes, "When we talk of a case of impaction, which is not a very happy term, we must not, however, suppose that the head is *literally and entirely immoveable.* That it is, in the strict sense of the word, sometimes impacted and cannot be recovered is no doubt true; *but this is not a case in which we can safely use the forceps, more frequently the hand can make it recede a little,* although the uterus cannot make it advance any more." Then having alluded to Levret's opinion, he proceeds, "Rœderer went further, and maintained that every part of the head was so fixed and pressed on, that not even a needle could be passed any where between it and the pelvis. *If so, how could the forceps be applied?* If the head be jammed at every point, even making allowance for the elasticity of its bones, we could not introduce the finger between it and the pelvis, and reach the ear (an object not sought for by Dr. H.) The impacted head, admitting the use of the forceps, is stopped by the promontory of the sacrum on the one hand, and part of the pubis on the other; the resisting point is generally the projection of the sacrum; but even in this case the term impaction is not strictly proper, *for if the forceps can be used the head can be a little raised,* and the blades must be capable of being introduced*." Such are Dr. B.'s directions for the use of the forceps, under circumstances in which it is still a question at issue whether it should be used at all. Dr. Campbell (another authority on the principles of midwifery in Scotland,) says, "It is scarcely necessary to state that impacted head, except when detected early, can rarely be referred to the present order (where the forceps may be used), since an attempt to elevate it in the pelvis, with a view to apply some mechanical power (lever or forceps) to accomplish its extraction, may, on the one hand, be attended with laceration of the uterus, and on the other with contusion of the pelvic linings†." Both writers thus assume the necessity of moving the head from its position, in order to apply the forceps, and therefore give a direct negative to the assertion, that "the head being moved from its position by the application of the forceps is an effect of the application of the instrument totally unknown here" (Scotland.)

The third inference refers to Dr. H.'s asserted power of the forceps, by which he states that the head can be diminished from three and a half to three inches between the parietal protuberances*, and therefore may safely be applied to such cases as have been described, viz. where the infant is wedged in the passage. To its power and application, under such circumstances, I objected, and referred to Baudelocque's experiments on still-born children, in which the strongest French forceps were used to compress the head, with such force that one of them was bent, and even this only reduced the head two-tenths. I therefore inferred, that when such was the result with the French forceps on a dead child, the degree of diminution caused by the English forceps on a living infant must be very trifling, independently of the hazard of using so much force.

Dr. H.'s commentary on this note is as much to the point as many other of his observations. He assures the reader I was "forgetting that each blade of Baudelocque's forceps is nearly a quarter of an inch thick," and therefore one would suppose the more difficult to bend, and a more decisive proof of the enormous power used to accomplish so trifling a diminution.

On this point, also, I refer to Dr. Burns, who states, "The forceps, as I have ascertained by experiments on recent fœtuses, cannot diminish the lateral diameter above a quarter or at most three-eighths of an inch without altering the shape of the bone itself, that is, fracturing it;" and after a discussion on its use in the cases alluded to, concludes, "The truth is, that this instrument is not proper when much resistance is to be overcome, or when the pelvis is barely sufficient to allow, with great exertion, the head to be brought through. We may at last succeed, but the child is killed, and the soft parts of the mother inflame and slough, or she is exhausted and dies†." In the same manner Dr. Campbell, speaking of labours of this description, observes, "If the fœtus be at the full time, and of the ordinary size, we can neither accomplish its extraction successfully by mechanical invention, nor can we expect that the expulsion will be effected by the natural efforts, unless there be a clear space of three inches and one

* Burns' Principles, p. 465-6.
† Campbell's System of Midwifery, p. 228.

* Hamilton, p. 112, Part ii.
† Burns' Principles, p. 474-5.

half between sacrum and pubes, and the same betwixt the tuberosities of the ischia." This statement, I am aware, is at variance with the sentiments of some *veteran practitoners*, who *think* they have succeeded in extracting living infants by a mechanical power immediately to be considered (the forceps) through pelves of only three inches short diameter at the brim*." Who the veteran practitioners may be to whom Dr. C. alludes, I shall not undertake to say. But it is clear that one veteran at least has been labouring under such a delusion, and also that his powers in this respect receive no support, even from Caledonian authorities on the principles of midwifery. Were I to add to these other authorities, whose opinions have become a standard of those principles, and who are much further removed from an admission of those doctrines than those whom I have quoted, a clearer proof would be afforded that Dr. H. stands alone in his opinion; and it will be, perhaps, granted, that when Dr. H. brings forward such topics as proofs of my ignorance of those principles, the professor himself requires some little information on the subject. To Dr. H.'s explanation—why I have found his language ambiguous, I have only to give a ready assent "Language may be ambiguous to the reader or hearer, in consequence of their own ignorance." And as I happen not to know, that when the cervix uteri is interposed between the head and pelvis, it must be intercepted, that when the head is immoveably wedged in the pelvis, it can be delivered by the forceps with perfect security to mother and child, and that it can safely be compressed within a less space than Baudelocque or Burns' could effect with all their force on still-born children, it is evident. "I cannot be expected to understand the practical precepts of Dr. H.," which can only be intelligible to those who have the good fortune to be "properly educated" in such valuable doctrines.

Having already examined at length Dr. H.'s proofs of the dangerous tendency of our modes of practice, to which Dr. H. has given no better reply than that which I am now obliged to notice, it will not be necessary for me at present to do more than to demonstrate how completely incapable Dr. H. appears to be of reasoning fairly on the subject. The first proof Dr. H. has given of the dangerous tendency of one precept, viz.—That artificial assistance (the crotchet) was never attempted until the safety of the patients required it," is "the appalling fact," which has been already exposed, and when no better evidence is given than a false statement, it is not necessary to undertake any defence of it. The second proof is in reply to my assertion, "That it has been proved, as Dr. Collins observes, that when the patient has been properly treated from the commencement of her labour, the death of the child takes place in laborious and difficult labours before the symptoms become so alarming as to cause any experienced physician to lessen the head." "It is here asserted (says Dr. H.) that it is proved that when the woman had been properly treated, the death of the infant *always* takes place before symptoms of danger occur." The reader will perceive Dr. H.'s interpolation of the word "always," the better to bring forward these cases, all given and considered before. I shall not now again examine them, but merely observe that I have not yet been able to find a proposition in medicine always true. The truth or falsehood, therefore, of the cases Dr. H. again details cannot overturn the truth of a proposition founded upon the whole number recorded. Dr. H. has carefully avoided taking the whole of Dr. Collins' report as a basis in the discussion of these questions, and until he does so it is needless to say it is unfair to argue on cases which at most may be but exceptions. Dr. H.'s mode of dealing even with these cases has been fully discussed; but if an additional evidence were required of Dr. H.'s inconclusive proofs, and of the spirit in which they are given, I need only quote the following passage:—"Dangerous as the preceding precepts are, the third proposition advocated by Dr. M., while it is equally calculated to mislead the junior members of the profession, is so preposterous, that if Dr. M.'s own words could not be brought forward to prove it, no individual who had been taught the elements of midwifery (by a competent teacher) could have hazarded it." What is the preposterous precept? Is it to endeavour with the forceps to drag the child's head through a pelvis in which it cannot be stirred? No—"but that no practitioner is justified in destroying a living infant without his having sufficient evidence to prove it actually necessary, as that necessity must arise from actual danger to the mother, so the evidence must be positive, not imaginary, or, in other words, must depend upon the presence of dangerous symptoms to the mother, not upon the *conviction* that they would have presented themselves had not the child been destroyed." "Reasoning with such a person (says D. H.) is a hopeless task, and therefore Dr. H. presents the reader with the following recorded case, as completely shewing the effect of adopting the precept under consideration." The case quoted is an arm presentation in a pelvis, $2\frac{1}{2}$

* Campbell's System of Midwifery, p. 229.

inches in ant.-posterior diameter, which in the early part of the labour was mistaken for the knee; and in six hours after, when the elbow was detected, the body was so wedged in the pelvis as to render it impossible to turn. Perforation of the thorax was had recourse to, which was accomplished with extreme difficulty, and the cervix uteri was lacerated. Dr. H. has thus the gratification of quoting another bad case, equally embarrassing as unfortunate in the result, and one in which the difficulties were greatly increased by the error committed in ascertaining the presentation. But what does it prove against the precept quoted? Nothing whatever, unless it be assumed that an arm presentation is not a symptom of actual danger to the mother, or that a pelvis 2¼ inches in diameter is not positive evidence that delivery is necessary; but as the presence of either or both places the certainty of danger to the mother beyond doubt. This case only proves the rule, for when the safety of the woman required it, the child was destroyed.

The passage quoted was an argument I had advanced to prove the utility of the stethoscope in those cases of difficult labour, wherein the existing disproportion could only be ascertained by the progress and effects of the labour; and in opposition to Dr. H.'s very mischievous assertion, "that it is in the power of the practitioner to foresee and prevent the occurrence of injury," by delivering in such doubtless cases. I denied that any practitioner was justified in destroying a living child on *convictions* so acquired, without having the positive support that dangerous symptoms to the mother were presenting themselves. But Dr. H. takes an extreme case in which symptoms of danger were in existence from the beginning, and which would authorize the destruction of the child if necessary when such symptoms were known; but because a delay arose from an accidental cause, which prevented a more timely interference, Dr. H. quotes it "as a case most strikingly illustrative of the dangerous tendency of three practical precepts," which have no reference whatever to such cases. When such is the illustration of Dr. H.'s argument, it is easy to understand why reasoning has become "a hopeless task."

The last topic which I have to notice is Dr. H.'s defence of his manner of quoting Dr. C.'s cases. He quotes my objections thus:—"He (Dr. M.) begins by saying, page 423, that Dr. H. may have supposed that because the cases he has been pleased to select are not incorrectly quoted there can be no cause of complaint; but in some of them, he has obviously misunderstood the details. The omission of the disproportion in one case (2.), we have seen is enough to furnish Dr. H. with an argument. Similar instances occur in other cases; for instance, where the treatment is not mentioned, he assumes it not to be adopted; though Dr. C. quite sufficiently explains what the general treatment was; nay, on the strength of the omission, Dr. H. endeavours to make the practice contradict the precept." Having quoted this, and another passage nearly similar, in which it was shewn that the omissions of one case, the ambiguity of another, the misconception of a third, formed the ground-work of Dr. H.'s commentaries, Dr. H. bursts into an exclamation of most dignified surprise. "Much as Dr. H. has had occasion, in his professional capacity, to point out the inaccuracy of reasoning in medical authors, he fairly owns that he has seldom met with any thing like the remarks in the foregoing quotation.

"Firstly, it is asserted that quoting cases correctly does not exclude complaint on the part of the author; secondly, that some errors in sense, if in opposition to the practice stated in the text, should raise a doubt as to the accuracy of the details of the cases; thirdly, that the omission of one case, and the ambiguity of another, and the misconception (Dr. H.'s)* of a third, being most palpable mistakes, should have been understood and corrected by Dr. H. Now when the reader is informed that it is expressly stated in the section from which these cases are taken, that they are curtailed, the statement, he will allow, implies that there must be omissions, and if these omissions (as of treatment) had been previously explained in the text, there could be no very great difficulty "in understanding the practice adopted." But if the case is made to contradict the text, on the strength of the omission alone, it must give false evidence. In the same way an ambiguity might arise from sentences being abruptly juxtaposed, which would lead to error in the reading of it.

When, therefore, 49 cases were compressed into 23 pages, some of them consisting of only a few lines, any one but Dr. H. would have assumed with regard to them such points as had been previously stated. He would not, for instance, take a case† from amongst a number of cases

* Dr. H. says "misconception in a third."

† Dr. H. says "It is impossible to imagine a more disingenuous allegation than that of Dr. Murphy, in asserting that there had been a disproportion in this case which had been omitted. If there had really been a disproportion it was unjustifiable to allow the infant's head to make no progress for the last 24 hours." Justifiable or otherwise, the fact of the infant's head being stationary is rather a novel proof that there was no disproportion.

of extremely severe labour in consequence of disproportion, and assert that there was no disproportion because it happened not to be stated in the case. Neither could he assume that the cases were neglected, because the treatment previously mentioned was not detailed in every case; yet such have been the means by which Dr. H. has brought these cases in evidence against the work itself. Dr. H. has expressed much astonishment in being required to supply an omission; he seems to find it easier to omit what has been supplied. The first passage of mine above quoted has been completely garbled: between the two sentences "there can be no cause of complaint"—"but in some of them he has obviously misunderstood the details," there are just fourteen lines of explanation, which Dr. H., finding it a hopeless task to answer, has left out without even acknowledging the breach. As the omitted passage conveys the force of my objection, it is fair to repeat it here:—"Dr. H. may have supposed that because the cases he has been pleased to select are not incorrectly quoted, there can be no cause of complaint, but when it is considered, that these cases are quoted to prove general assertions as to the practice adopted in the lying-in hospitals—that they are taken from a mass of facts of the most opposite kind, in which every particular which could assist the reader in ascertaining the proper value of each, is given with unusual minuteness—that to the exclusion of every other, the most unfavourable cases are selected by Dr. H., and upon their evidence a judgement passed upon the whole—it will be admitted, perhaps, that such a mode of treating a report is not a fair representation of the facts and practice contained in it. But Dr. H. has not only thus misrepresented the results of Dr. Collins' practice, and failed to establish the utility and importance of the precepts by the cases which he has given, but in some of them he has obviously misunderstood the details*," &c. I had there pointed out the different cases misinterpreted by Dr. H., but in place of meeting me upon them, he affects to wonder he should be required "to correct the sense" (there were no errors in sense but those created by Dr. H.) "to supply the omissions," and "to clear the ambiguity of the record.—Presuming (says Dr. H.) as a matter of course that Dr. Hamilton, being a native Caledonian, must have the second sight." When Dr. H. has been so completely blind to what must be obvious to every one, the weakness of his position, and the manner in which he has exposed him it, I should be the last to attribute to this remarkable attribute of national foresight.

It requires, however, no second sight to see that Dr. H. has not been able to meet the objections made to the manner in which these cases are quoted.

Having thus noticed the principal assertions and charges contained in Dr. H.'s "Observations," I cannot conclude, without again expressing the reluctance with which I have been drawn into a line of disputation equally useless to the inquiring reader as uncongenial to my habits. For the purpose of divesting a very interesting subject of inquiry of much irrelevant matter I had examined Dr. H.'s letters as dispassionately as it was in my power, and while I pointed out Dr. H.'s errors in reasoning, and the mistakes into which he had been led, I avoided the use of any language which could be considered as personally disrespectful to him; nevertheless, in self-defence, I have now been compelled to expose traits in Dr. H.'s character as an author which I would gladly have avoided.

Dr. H. has denied having invited a controversy; I could not but give a history of facts. He has accused me of "flagrant misrepresentations;" I have been obliged to expose the flagrant misrepresentation on which the accusation was founded. He has charged me with ignorance of the principles of midwifery; I am constrained to quote conclusive evidence to prove that Dr. H. seems unacquainted with any principles but those dogmas which he has been labouring for years to impress on the profession, and which, being constantly repeated with all the confidence of acknowledged truths, have been mistaken by Dr. H. for such. The very same "proofs" as before, of Dr. C.'s and my "dangerous precepts," are again brought forward, only a little varied, and one new one added. Dr. H. having passed over the objections offered to these cases being considered proofs, it only remained for me to shew, what indeed the last case brought forward sufficiently proves, that Dr. H. does not seem to know what a proof really means. Thus I have been obliged to bring before the notice of the profession points which I would willingly have suffered to rest in oblivion.

Under these circumstances it is hardly necessary to add that, when Dr. H. has mistaken so completely assertion for proof, vituperation for argument, it is needless to prolong a useless discussion. Dr. H. has expressed his intentions in this respect hypothetically; and as time has had little effect with him in diminishing a taste for disputation—as we cannot say of him

"Lenit albescens animos capillus
Litium et sisæ cupidos protervæ;"

* Dublin Journal, vol. xiv. p. 423.

and as he has given so many "decided proofs" of

—— "the skill,
By which, tho' conquered, he can argue still,"

it is quite possible he may think that the proofs of his propositions have not "been made out to the satisfaction of the reader" sufficiently "to exonerate him from noticing any article which may in future appear under the signature of Dr. Murphy." I can only say, should such be the case, I shall leave to Dr. H. the undisturbed privilege of concluding the controversity.—I am, sir,

Your obedient servant,
EDWARD WILLIAM MURPHY.

12, Upper Temple Street,
May 6, 1839.

THE

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OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 25, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Xanthic oxide calculus.—This species, as already stated, is but of rare occurrence, and has, as yet, been but once unequivocally demonstrated in this country. But Professor Langenbeck, of Göttingen, extracted a stone from the bladder which, on analysis, was found to consist of xanthic oxide. Its analysis also proved that its chemical composition was exactly identical — minus one equivalent of oxygen with that of lithic acid; and therefore it was named *lithic oxide*: and the properties which it possesses completely verify a former proposition, that the quantum even of a single material often proves sufficient to modify the characters of a compound, and to produce truly distinctive phenomena. Thus the abstraction of a single atom of oxygen from the lithic acid would give the chemical composition and modified characters of xanthic oxide. The properties, as enumerated by Dr. Marcet, are as follows:—

1. When entire, it was of an oblong or spheroidal shape: weight about eight grains.

2. Texture compact, hard, and laminated; surface smooth; colour that of cinnamon, which was much deepened by the addition of caustic alkali. Between the red laminæ, faintish white lines were perceived.

3. Before the blow-pipe, it crackled, split into small pieces, turned black, and was ultimately consumed, leaving a minute white ash. During the dissipation, a peculiar animal odour, feeble, nor easily defined, was given off. This odour did not resemble that of either the lithic acid nor cystic oxide.

4. Exposed to destructive distillation, it crackled, blackened, split into scaly fragments, emitted a fœtid ammoniacal liquor, from which, on cooling, carbonate of ammonia crystallized, and a heavy yellowish oil separated.

5. Reduced to an impalpable powder, and boiled in water, it was nearly wholly dissolved, and the solution slightly reddened litmus paper. The clear liquor, decanted and allowed to cool, became covered with a white flocculent film, not crystalline, but which gradually subsided, forming a white incrustation; and the vessel being scratched with a pointed instrument, just before the deposition took place, white lines appeared at the point of contact; as in the case of the ammonio-phosphate of magnesia.

6. It dissolved readily in caustic potass, from which it was precipitated by acetic acid, if not in very great excess. It was also soluble in ammonia and the alkaline carbonates*.

7. The mineral acids dissolved it, though not near so readily as the alkalies; and hence Dr. Marcet presumes, or rather suggests, whether the solvent agency of the acids may not depend upon their water: consequently the *anhydrous* acids would not dissolve this calculus.

8. The residues of its solution in the hydrochloric and sulphuric acids were white; and so far as could be observed from the limited experiments which the

* Named by Dr. Marcet, "*sub-carbonates.*"

minute portions of the calculus that could be devoted to this purpose admitted, no distinct crystals were formed. Concentrated sulphuric acid did not blacken it.

9. Its solution in nitric acid evaporated to dryness left a residuum of a bright lemon colour. This yellow residue was partly soluble in water, to which it communicated its colour. The addition of an acid took away the yellowness; but the addition of caustic potass immediately turned it to a red colour, more or less intense in proportion to the degree of dilution; and which, upon evaporation, assumed a brilliant crimson hue, which, however, disappeared on adding water, the yellow colour being restored, and remaining perfectly transparent. The previous action of the nitric acid is necessary for the development of these singular properties; for when potass was added to the pure calculous substance, such as deposited by water, no change of colour took place. The residue of the solution of the calculus in water, treated with nitric acid, produced the yellow substance equally the same as the calculus itself.

10. It is insoluble in alcohol or ether.

11. It is but very sparingly soluble in acetic acid.

12. It is insoluble, or nearly so, in oxalic acid.

13. It seems to be insoluble, or nearly so, in bicarbonate of potass, or saturated carbonate of ammonia.

Distinguishing chemical characters.—This substance, Dr. Marcet observes, is entitled to be considered one *sui generis*, and probably hereafter will prove to be an oxide (a suggestion which recent discoveries have fully confirmed), though he states it is much less soluble in acids than the cystic oxide. The only substances with which it could well be confounded are the lithic acid and cystic oxide. The rarity of the substance prevents offering any distinguishing characters before the blowpipe; though Dr. Marcet states the odour to be peculiar, and very distinct from that of the other two. Yet there are other chemical characters sufficiently obvious, and perhaps much more characteristic. From lithic acid it may be distinguished by its comparatively much greater solubility in water, and by the lemon yellow colour given to the residue from its digestion in nitric acid.

From the cystic calculus it may be distinguished, inasmuch as cystic oxide evaporated from its solution in nitric acid leaves a white residue; has a smell peculiar to itself; is not *laminated;* is rather more soluble in alkalies, and much more extensively so in acids, than the xanthic calculus.

In fixing upon a name for this calculus, Dr. Marcet was entirely guided by the action of nitric acid, as already stated, producing a yellow colour; hence he named it "*xanthic*," from the Greek word ξανθος, which signifies *yellow*; and therefore as this epithet reminds us of a striking, invariable, and, in all probability, a *unique* and characteristic property, it seems so far unobjectionable.

Fibrinous calculus.—We are also indebted to Dr. Marcet for the chemical description of this calculus. It was sent to Dr. Marcet by Sir Astley Cooper, with the inquiry, "Is it cystic or uric?" It was about the size of a pea; and after a slight examination Dr. Marcet perceived that it did not belong to either species. Upon submitting it to the proper investigation, it was found to possess the following properties:—

1. It had a yellowish brown colour, resembling bees' wax, and nearly about an equal degree of hardness and consistence. The surface was uneven, but not rough; texture fibrous rather than stratified, and the fibres seemingly radiated from the centre. It was somewhat elastic.

2. Exposed to the flame of the spirit-lamp it took fire, swelled out, blackened, and ultimately passed into a light spongy carbonaceous mass. During combustion it emitted an animal odour, in no way resembling that from the lithic, the cystic, or the xanthic calculus.

3. It was insoluble in water and in hydrochloric acid; but, boiled with caustic alkali, it formed a soapy solution, from which the calculus was precipitated by hydrochloric acid.

4. Nitric acid dissolved it, though much less readily than the lithic or cystic calculus; the solution on evaporation to dryness did not produce any red or yellow stain.

5. Boiled in very dilute acetic acid it first swelled to a greater size, but was at last dissolved. On adding to this solution prussiate of potass—ferrocyanide of potassium—a yellowish precipitate was thrown down. Now the above properties are such as, we have already shewn, principally distinguish fibrin; consequently calculi of this description may properly be named *fibrinous*. It is unnecessary to consider the chemical habitudes of this species more at length.

Prostatic calculus. — Calcareous concretions are sometimes formed in this gland, and these occasionally produce symptoms very closely resembling those of stone in the bladder. Their appearance, too, if any be voided, is often so like that of lithic concretions, that unless their nature be determined chemically, they will be readily mistaken for that species. It is to Dr. Wollaston that we owe our knowledge of

the true composition of these substances. They consist of the phosphate of lime, not distinctly stratified, and tinged more or less by the secretion from the gland; they consist of neutral phosphate, without any excess of base, as in the case of bones. In size they vary from that of a pin's head to that of a hazel-nut. There also seems to be two varieties of them: the first is formed in the natural cavities of the gland, before it becomes much disorganized. Generally speaking they are small, more or less spheroidal or rounded in shape, and are of a yellowish brown colour. Here are some specimens. In this drawing, fig. 2, plate ix. of Marcet's work, you have a representation of a section of a diseased prostate, the enlarged cells of which are occupied by calculi of this description. The second variety is found mostly in abscesses of the gland, and often in very great numbers. They present a porcelainous or highly-polished appearance, and are much larger in size than the first variety. Here are a few; and fig. 1 of the plate I have just shewn you gives a view of this form of diseased prostate. In this drawing the calculi appear as if enclosed in a cyst, formed in the right lobe of the gland, and which is much enlarged. In composition, however, both varieties are essentially the same, namely, they consist of phosphate of lime; and as this substance does not seem to be ever deposited in an unmixed state by the urine, prostatic calculi can always be readily distinguished from urinary ones.

Chemical characters.—The first variety are those which are most likely to be mistaken for the lithic species. Before the blow-pipe the phosphate of lime suffers no change, whereas the lithic calculus dissipates, and leaves a minute alkaline ash. The phosphatic residue exhibits neither acidulous nor alkaline reactions, when tried by test papers. The phosphate, if mixed with ammonio-magnesian phosphate, fuses; the lithic calculus suffers no changes whatever of this sort. Acted on by nitric acid, the lithic acid suffers specific and characteristic changes; the phosphate merely dissolves, and is recoverable, unaltered either by dissipating the acid by evaporation or by neutralization and precipitation. Lastly, the characters detailed in a former lecture will identify the composition on submitting it to the processes already described, and which it is unnecessary here to repeat.

Silicious gravel.—We have now considered the principal urinary calculi with a view to their chemical identification, and what has been stated of these will equally apply to the other forms or modes of the same compounds; and the gravelly and amorphous sediments may be chemically identified by the same means. It now remains that I bring before you a singular species of gravel, which, though frequently announced, had never been unequivocally detected till I met with an instance which, though attempted to be disputed as a case of imposition, yet am I so fully satisfied, that, with the precautions adopted—adopted too under a thorough conviction and the fullest impression of the great probability of such an attempt—I cannot doubt for a moment that the specimens I now send round are really and *bonâ fide* of urinary origin. These, when first passed, had a slight coating of lithic acid; and indeed I mistook them for minute granules of this substance; but acting upon them with nitric acid I was surprised to see that they completely resisted the solvent powers of this fluid. I found that they became crystalline grains, resisting the mineral acids, and even the action of the alkalies. The blow-pipe had no effect, unless aided by potass or soda, when they fused and melted before the instrument. They resisted every reagent but the hydrofluoric acid; and they were so hard as to scratch glass. These properties induced me to believe that the granules were truly silicious; and shewing some to Dr. Prout, he pronounced them silicious, but could not bring himself to believe in their urinary origin. I, however, felt so satisfied, that I determined to make public the facts, with the view rather of exciting attention than any impression of communicating any thing of very great value. A paper detailing the particulars of the case, and to which I refer you, was sent to the Journal of the Royal Institution. While it was in the press, and I believe before publication, Dr. Yelloly, who was at that time engaged in examining the calculi in the Norwich collection, met with an oxalate of lime calculus which exhibited some anomalous characters; and, in consequence, he brought it to the Royal Institution, to Mr. Brande, who, on examination, found some small granules embedded in the interior substance of the oxalate to consist of silex. Dr. Yelloly was apprised of my communication, and wrote to me for some of the specimens, to compare with those which he had discovered, and I sent him those which I now present for your inspection. The doctor, in a paper read before the Royal Society, and which has been published in the Philosophical Transactions, has contrasted the general appearances and properties of these two; and I think, if you will refer to the paper as above, you will find the analogies sufficient to justify the conclusion of the similarity of their origin.

Now I think there can be no question of the urinary origin of the silex found em-

bedded in the interior of the oxalate of lime, because it is not otherwise easy to conceive how they could have got enveloped in the calcareous deposit, unless they had separated from the urine at the same time, and been deposited with it; but the oxalate being found in much greater quantity, speedily encrusted the granules, and at last deeply covered them. If, therefore, the case brought forward by Dr. Yelloly justifies the conclusion of such an occurrence, there can be no longer any reason to doubt of the occasional deposition or separation of silicious matter from the urine; and probably when this excretion comes to be more closely attended to, perhaps instances of the above description will not be quite so solitary.

With respect to the chemical characters, they no doubt are by this time sufficiently well understood. If they resist the blow-pipe, resist the action of nitric acid, but melt into a glass with soda or potass before the blow-pipe, there can be no doubt of the nature of such gravel*.

Symptoms of stone.—As calculi are formed by the aggregation and consolidation of the saline matters usually existing in solution in the urine, it is evident that they may form in any part of the urinary apparatus where this fluid, lodged or passing through, can no longer hold these principles in solution. Hence calculi may be, and often are, found in the pelvis of the kidneys, in the ureters, in the bladder, and even in the urethra. The circumstances which dispose them to form in one situation rather than another, are various, and depend upon causes differing in different cases.

Stone in the kidneys.—The formation of stone commences in the kidneys more frequently than in any other situation. The urine secreted by the minute ramifications of the renal arteries passes into the infundibula, through which it slowly percolates into the pelvis, from which it passes into the ureter, to be ultimately transmitted through this tube into the bladder. If, during its transmission or filtration into the pelvis, it should be so loaded with calculous matter, or the urine be altered to a state incapable of holding it in solution, of course it will be deposited, and give rise to a calculous concretion. Sometimes concretions even are found in the infundibula themselves, and they sometimes stop in the pelvis, either forming in great numbers, or one greatly increasing in size, and distending the pelvis into an enormous pouch, and producing a wasting or absorption of the glandular portion of the kidney. I here shew you several which were taken from the pelvis after death. In this plate also, No. 1 of Dr. Marcet's work, not only are the calculi seen in the pelvis, which is much enlarged and distended, but even the infundibula are enlarged and distended by calculous accretions, while the substance of the kidney has been gradually and proportionally absorbed. The calculi which are seen in the pelvis, it may be supposed, form some peculiar morbid condition of the organ, as well as from their own rapid growth, instead of being expelled, are retained immediately on their formation, become blocked up there, and, still continuing to increase, produced the appearances delineated in the plate.

Sometimes, instead of several smaller calculi, a single mass of calculous matter is found in the pelvis; and, as in plate II, which I shew you, the calculus becomes moulded by the walls of the pelvis, so as resemble a cast of this bag and its ramifications. As the bulk increased, the texture of the kidney became altered in such a manner as to leave nothing but a sort of pouch or cyst, wholly occupied by the calculous mass which occasioned these effects in the manner depicted in the plate.

Stone in the ureters.—Calculi are also sometimes found in the ureters, and most frequently in the upper portion of these conduits, where they are much expanded, resembling a sort of funnel. When calculous matter is disposed to be deposited, the first portion deposited is prevented passing by the gradually decreasing calibre of the ureter, and being detained, gradually increases in size. I here shew you a curious little calculus of lithic acid, and which, from the history and appearance, we may presume was gradually formed in the ureter. You observe it is long and round, forming a sort of roundish cone, somewhat like the small pestles of agate mortars. It is small, and pointed at the apex, gradually enlarging till we come to the base. Now this is somewhat the shape of the ureter as it approaches the pelvis: it proceeds narrow from the bladder, but, as it approaches the pelvis, it dilates gradually, till at last it expands into the large cavity, named as above. Now this little calculus no doubt lay in the ureter, with the apex towards the bladder, and the base of the cone towards the pelvis, and, by the urine and some accidental circumstance still further favouring, was at last carried into the bladder. It does not appear from the history, nor even from its appearance, to have long remained in this situation. The patient (a boy) found that he experienced suddenly some difficulty in passing his urine, which gradually increased, till

* For fuller and more specific details I refer you to the Journal of the Royal Institution, and to Dr. Yelloly's paper in the Philosophical Transactions.

at last he could scarcely pass any. He was supposed to be suffering from stricture; but one or two attempts to pass a bougie were unsuccessful, when one morning his medical attendant, on examining the urethra, thought he perceived something in the passage, and which he endeavoured to lay hold of with a forceps. After a great deal of difficulty he succeeded in extracting the lithic calculus which I have shewn you, and which, from its length and round shape, you must observe, received its moulding in some canal, and this, no doubt, was the ureter. This is the account which I received from the gentleman who extracted it, and gave it to me. I may here observe, that if the penis had been sufficiently examined by the fingers externally, that portion of the urethra in which the calculus was lodged would have presented a hard and resisting feeling to the touch, while all the other portion would have been of its natural feeling; and thus some clue might have been obtained as to the nature of the case.

LECTURES

ON THE

VENEREAL DISEASE,

Delivered at the Aldersgate School of Medicine, March 1839,

By F. C. Skey, F.R.S. &c.

Lecture III.

Eccentric Actions of the Phagedænic Sore—Primary Phagedæna of questionable existence—Phagedænic Disease of spontaneous origin in certain constitutions—Character of Phagedænic Action—Is Slough or Pus the product?—Three Forms of Phagedænic Sores—Bubo—Phagedænic Secondary Disease—Eruptions, Sore Throat, &c.—The Phagedænic Scaly Eruption—Mercury competent to develop Phagedænic Disease independently of Venereal Disease.

ON THE PHAGEDÆNIC ULCER.

This is by far the most important form of sore we are called to treat—on the ground of its frequency, its destructive actions, and its intractability by treatment. It is not necessarily a venereal sore, although its origin may be occasionally referred to sexual intercourse. By Mr. Evans it is classed among the non-venereal sores, under the name of "ulcus erraticum." It commences under the form of a pustule, though we rarely possess the opportunity of observing it in this stage, for its actions are too rapid. Those I have possessed have been obtained by the generation of new sores in patients already under treatment. If we except the phagedænic sore, the treatment of all venereal disease is direct and simple. We can prognosticate with certainty the progress and almost the duration of any form of ulcer, in its primary or secondary form, always excepting sloughing action; while in phagedæna the actions, like the sore, are eccentric, alternately healing and extending, amenable to one form of treatment one day, rejecting it the next; healing in one portion, ulcerating in another; and presenting in the same sore a confined and unnatural combination of granulating, sloughing, and ulcerative actions. During the very early progress of the phagedænic sore there is nothing uniformly characteristic by which to determine it; indeed, it may be doubted whether there is such a disease as the primary phagedænic sore. This doubt has, I conceive, most reasonably been suggested by Mr. Guthrie, in opposition to Sir R. Carmichael, who first systematically described this form of ulcer. Mr. Guthrie considers the phagedænic sore to be dependent on unexplained and probably inexplicable causes, and states that he has frequently seen sores become phagedænic during their progress; and that in fact there is no form of sore warranting Sir R. Carmichael's denomination of a phagedænic primary ulcer.

Sir R. Carmichael has referred certain secondary forms of eruption to this phagedænic sore, considering it a distinct form of disease; at the same time acknowledging that "he had not witnessed it at any earlier period than the second or third week from its commencement," while Mr. Guthrie is of opinion that any simple form of sore may become phagedænic, and exhibit all the characters of secondary disease, referred by Sir R. Carmichael to the phagedænic ulcer. There is an obvious and important difference in the two views of the subject—primary phagedæna, inferring the presence *ab initio* of a phagedænic poison obtained by contagion, by which it is characterized throughout; while on the other hand, the progress of the sore being subject accidentally only to phagedænic action, would lead necessarily to the opinion, that this action was constitutional, and not dependent on the presence of a specific local poison. For myself, I entertain no doubt whatever, in common with many men of authority, that the phagedænic (absurdly called) venereal disease may arise spontaneously in particular constitutions, holding no relation to specific poison of any kind; and that its peculiar and destructive actions are referable to the constitution that supports them. I fully agree with Mr. Guthrie, that they are not primary, and that any

form of local sore may assume its actions when advanced to a certain stage in those forms of constitution which are the subjects of its ravages. Although often developed by venereal ulcerations, it may as readily be excited by any other, and may extend throughout the whole range of the animal structure, under the aspect of secondary disease, without the previous existence of a primary one. I greatly doubt its being communicable to any constitution save one of its own kind.

There must, indeed, exist some important difference between the actions of a sore extending by phagedæna, and another form of sore extending by common ulceration; and the question here is, whether this peculiar action, denominated phagedænic, is or is not the product of a poison obtained by sexual intercourse. If it be acquired by such intercourse, doubtless the sore ought to exhibit its characters from the commencement; if it be not necessarily so acquired—if any other form of sore destitute of phagedænic action can assume that action at any subsequent stage of its progress—may we not reasonably infer, that such phagedænic action is not the product of a specific poison, but that it is the product of some internal and yet unexplained constitutional cause, independent of, and distinct from, the original poison? Mr. Guthrie asserts that he has seen simple forms of sore become phagedænic. I have seen it often, and indeed I would even hazard a conjecture, that this is the history of a very large proportion of such sores; not that I entertain a doubt but that a certain form of phagedænic sore may exist as such from its commencement, or at least from within a few hours of its first appearance. By phagedænic action is meant that process of extension of a sore, by which its edges appear to melt away; or, as Mr. Wallace expresses it, as though "serrated or nibbled." The action is chiefly confined to the margin, which the destructive process having undermined, overlaps with an irregular and ragged edge. Of this mode of destruction of soft parts there are various degrees, the most simple of which is characterized by slow action, and is usually covered by a layer of white matter. Here the reparatory action commences on one part of the sore as soon as that of destruction is exhausted, and the two advance together, engaging opposite sides of the sore, each progressing in the same direction; the destructive margin being concave, and the reparative or granulating one convex. From this circumstance it has been named the "horse-shoe sore." Its action may be compared to that of fire in a field of stubble, extending and destroying in all directions, its activity proportioned to the favourable or unfavourable nature of the material on which it travels. That the action is purely local may be inferred from the limited extent of its operation, the two actions of health and disease being almost blended. The pain of the sore is not particularly great. In another degree of activity we find more rapid destruction, extending not only along the whole circumference, but throughout the excavated base of the sore. It extends rapidly in all directions, and in the course of two days may equal the size of the half of a large black currant. The base is of a dark red colour. The local pain and constitutional derangement are considerably greater than that attendant on the first form. The third degree is known under the term "sloughing phagedæna," and is rarely met, except in hospital practice. Its name indicates the extensive and often fatal destruction which marks its progress, and it is well named; for the action is phagedænic, and the product a slough, often of the most formidable dimensions.

Mr. Wallace, who has devoted to phagedænic ulcers a considerable portion of his work on the Venereal Disease, very justly attaches considerable importance to the colour of the slough, as I shall at present term it, which is formed on them. His sub-division of these forms of sore is very extensive, founded not merely on the black or white colour of the slough, but on the irritable and inflamed character of the sore; and the negatives to these give in addition an agreeable variety of phagedænic ulceration, to dilate on which would exceed the limit of an ordinary lecture, and which, with every respect for Mr. Wallace, would, I think, be hardly profitable, inasmuch as nature, in this disease at least, is scarcely consistent with her own indications; and as Mr. Wallace himself says, "there are but few varieties of phagedænic disease which do not run into each other, or exhibit compound characters."

What is the immediate product of phagedænic action? Mr. Wallace asserts that it is slough, and not pus. He considers those views of ulceration first promulgated by Mr. Hunter, which refer to that process a gradual absorption of the destroyed vital substance, to be erroneous, considering, in the case of venereal ulcer for example, that the constitution must be contaminated by such absorption, did it occur. He refers the ulcerative and sloughing processes to the same actions, varying only in degree; a thin layer of dead matter being separated and broken down in the one case, and a large portion in the other, over which the absorbents exert no influence whatever. He says, "with a magnifying glass of moderate

powers, we may also detect upon an ulcerating surface a stratum of matter more or less solid, and sometimes semi-transparent, formed by the original texture in progress of liquefaction; and that the transitions of the states of ulceration and sloughing are gradual and continuous." According to his views, the whitish matter adhering to the bottom of sores, of which perhaps the best example may be obtained in phagedæna, consists of the debris of former organized matter, which has not been absorbed. He goes further, and asserts that the process of ulceration is merely a modification of that of sloughing, and differing only in degree; for while in the latter change the whole substance is converted into a dark and putrid mass, in the former the animal texture is separated more gradually, and may be seen by a common magnifying glass to be retained on the surface of the ulcer, from which it may be removed by the forceps, "giving some resistance to laceration, and being more or less stringy and tough." I cannot say that the examination I have made with the microscope of these and similar secretions bear out the reasoning of Mr. Wallace; on the contrary, I have always found that the semi-fluid matter which covered these sores is composed of the purulent globules floating in serum. I have examined this matter on frequent occasions, selecting more especially that from sores which bore the nearest resemblance to disorganized matter or slough. I made this inquiry with a full inclination to adopt the doctrine of Mr. W., and with something allied to a hope of its correctness, for I had been disposed to entertain the same views before I read Mr. Wallace's work.

If I had a prejudice, therefore, it was in favour of and not against them; and I confess I was somewhat disappointed in the results I obtained, which I must honestly confess were all opposed to his views, for the fluid is unequivocally pus, and not slough. It differs, however, from common pus in containing less serum, so that a mass of the globules coalesce, forming an apparently condensed substance, which is not very easily penetrated by the glass.

Phagedænic disease, primary or secondary, presents to the finger on pressure no sense of thickening, nor induration. Slight tumefaction is a frequent attendant on the less rapidly ulcerating forms, either with white slough or when destitute of it, but nothing with which to confound the circumscribed thickening of Mr. Hunter's description.

The purely local action of phagedænic disease does not at all weaken the supposition of its constitutional character; the idea which is conveyed, being that of a structure so organized as to be unable to resist the influence of a poison that would prove inoperative on a structure of a different kind, and in which probably the whole body participates.

Although we are unable to determine by any external indications, with any thing approaching to precision, the characters of those constitutions which are subject to such influence, yet we have no difficulty in determining generally the class of persons who are liable to it; for, negatively, we do not observe it to reign among the vigorous and strong, or the sanguine, nor does it perhaps hold a relation so much to temperament alone, as to temporary health and habits of life. It will attack the weak, whether constitutionally, or whether reduced by disease or treatment. Its ravages are promoted by mercury, when producing frequent ptyalism, and perhaps more frequently than from any other cause. It prevails among the dissipated and the dirty, who destroy the natural and wholesome appetite for food by habits of spirit-drinking; and among those forms of constitution which we term the scorbutic, as well as the cachectic.

I have had under my care for three months a gentleman who returned from the West Indies on board a merchantman, where he was attacked by scurvy, from which he alone out of all the ship's company suffered. When I first saw him, my attention was directed to certain purple patches on the back of his hands, caused by the disease from which he had, when I first saw him, recently recovered. He contracted a sore on his arrival at Plymouth, and was salivated; and on reaching London had phimosis, with profuse sanious discharge. I divided his prepuce somewhat unwillingly, and he has been under treatment during three months for many phagedænic sores of the glans and prepuce, of which the wound I made formed the largest.

Although, then, we cannot always determine with certainty, we have often at hand some peculiarities whereon to ground suspicion of the liability of individuals to phagedænic disease. Prejudice and defect of observation class these cases as the invariable product of venereal poison. There is no one fact connected with this subject, which I am more anxious to impress on your minds, than the fallacy of this opinion.

But to return to the primary sore. It may be the immediate product of a pustule or an excoriation. Its early characters may not be distinctly marked. It may possibly be a venerola, or a mere excoriation, which may progress for some days before it exhibits its peculiar characters.

It may then manifest a great propensity to ulcerate irregularly at its margins alone, if of the less active kind, having the "nibbled and serrated" edge of Mr. Wallace; or at the base also if of the more active. The destructive process is carried on less rapidly when the sore is situated on the glans, than when in the fossa, or inner side of the prepuce. The common skin is also less rapidly destroyed, whether of the penis or of the general integuments, unless the sloughing action be superadded; and then there are no bounds to its virulence. On the fossa, or indeed on the glans, it often burrows deeply, laying open the erectile structure of the corpus spongiosum, or extending deeply into the common integuments of the dorsum: its crisis is often obtained by extensive hæmorrhage from the dorsal vessels. The slow form, covered by white matter, is the most frequent; for the extension of which we have no rule to guide us, so fitful, so various, is its action. Stimulants, depletives, escharotics locally applied, general depletion, tonics, mercury, used as constitutional means, may be each and all, at one time or another, both beneficial or injurious. The disease must be seen daily, and prescribed for daily. When in any degree active, the treatment that will prove beneficial on one day, may be worse than useless on the next. The more simple the form, the more difficult its management; or, at least, I have found the more rapidly extending phagedænic disease allied to the sloughing form, and even that disease included, to be more controllable under the treatment first suggested by Mr. Welbank, than the sore covered either with white matter or white slough.

There are three forms of phagedænic primary sore, each of which is a modification of the other, and of which each may exhibit various degrees of activity or irritability.

The first sore (the venerola superficialis of Mr. Evans) is not excavated, but formed on a level with the surrounding skin. The nibbled edge may be observed by close examination. It does not extend with the rapidity of either of the other forms, and may remain stationary, or apparently so, for many days or weeks. It is covered by a thin layer of whitish matter, easily removable by the application of a piece of lint, and under which a minute granulating surface appears. It might rather be denominated a simple sore, extending by phagedænic action, than a positively phagedænic sore. Its comparative activity may be estimated by the colour and quantity of the secretion; if progressing favourably, the secretion is small in quantity, and possessing the ordinary qualities of pus. A larger quantity of this matter on the surface, of more viscid and adherent qualities, indicates an unfavourable condition, and shews a tendency to spread. The quantity and quality of the matter will also correspond with the halo of inflammation around it, which, however, in this sore, is not considerable.

The second form of phagedænic sore which may at any time be assumed by the last described, is characterized by a greater tendency to spread (by erratic action), which extends deeper even when it attacks the glans—is covered by a deeper and denser slough, of a whitish colour, not always readily removed from its surface—has a more inflammatory circumference—is attended by more constitutional derangement, and that generally referable to either mercurial excess, or to the abuse of spirituous drinks. This I have found the least controllable, by simple treatment, of all phagedænic sores. In it we find the constant struggle between the destructive and reparatory actions, and consequently we have here the best example of the horse-shoe sore.

The third form is that which I presume to have been known under the title of the black pox, not in virtue of its colour, which is not black, although it is described as commencing by a black pustule—an appearance which Sir R. Carmichael alone professes to have seen, and that only once in his experienced career. It is characterized by rapidly extending ulceration, both round the circumference and at the base. It most frequently attacks the fossa glandis, and extends along the circle of the fossa in preference to any other direction. It often undermines the penis to a great extent; is attended with great pain, though by no means constantly so; and may occur spontaneously in the worst forms of constitution.

The bubo of phagedænic disease is as irregular and as uncertain as the primary disease. In its form and locality there is nothing remarkable; but its peculiarity exists in its apparent independence of the primary disease. You cannot foretel the future existence of a bubo. It may occur under circumstances of greater or less irritation, and does not advance *pari passu* with the original sore. The swelling may become considerable, stop short of suppuration, and assume the more active form, while the original sore is healing; and *vice versâ*. I have repeatedly seen the bubo of phagedænic sore form in the early stage of the sore, and gradually subside, while the sore was pursuing a career of protracted ulceration. I do not think this form of bubo is liable to suppuration, when compared to the bubo of simple venerola, or of gonorrhœa.

The phagedænic ulcer, as may be in-

ferred from the preceding description, produces secondary disease of a very formidable kind. It may appear from six to ten weeks after the disappearance of the primary sore. It presents itself under the form of sore throat and eruption, either of which may precede the other, or both appear together. Whatever form it assume, it is preceded by symptoms of constitutional disturbance, pains in the limbs, headache, accelerated pulse, languor, which are somewhat modified on the development of the eruption. The aspect of the throat is various, but it is generally affected in the first onset on the soft palate and tonsils. These surfaces are inflamed, though not always extensively. A foul ulcer may form on the tonsils, or on any part of the posterior border of the palate. At first there are no peculiar characters with which to determine the nature of the disease. The ulcer spreads with ragged and undermined edges.

The inflammation may extend to the upper surface of the palate, and, gradually advancing, may attack the mucous lining of the nose, from which its extension to the bones is a very general occurrence. Portions of bone come away with hardened crusts formed on the pituitary membrane. The disease attacking the cartilaginous septum may destroy it either partially or entirely. The ossa nasi, or the spongy bones, become involved; first indicated by tenderness on the dorsum, then by inflammation; at length the foundation of the nose appears to crumble down, and the ossa nasi, in a state of necrosis, separate from the frontal bone, leaving the integuments and cartilages of the nostrils the only projection beyond the level of the cheeks.

The back of the pharynx is, however, more frequently the seat of phagedænic disease than any part I have yet alluded to. It appears covered by a layer of white viscid matter, extending beyond the view in all directions. This whitish matter degenerates into brown crusts adhering to the surface, which at times appear almost black and dry.

The eruption appears in the form of pustules, some of which maturate, but the majority prematurely burst, and form crusts of various forms and sizes. Some have the hardened base of furuncle, and form tubercles of a red copper colour; some chronic without, but the greater number with, an ulcerated and inflammatory base: these elevated crusts constitute rupia cachectica. When the eruption is extensive, it exhibits the compound forms of papulæ or pimples, pustules, tubercles, and of scaly eruption; not, however, the scaly eruption of syphilitic disease, but that of flat shining blotches, not unlike the cicatrices of soft skin. You must also observe that the final stage of all such eruptions as the above end by desquamation; and this appearance may be, and indeed is, very commonly mistaken for the scaly eruption of syphilis. There are, therefore, two forms of scaly eruption, but neither of them bearing a very close resemblance to the latter rare form of disease. Sometimes the eruptions are of a character to which the term *phlyzaceous* has been applied, which means small tubercles passing into early ulceration, each ulcer, however small, surrounded by an inflammatory ring. It is important to consider the nature of the progress of all these forms of disease, for the purpose of acquiring some insight into the condition of the constitution that generates them. They commence in ulceration, why determined to those particular spots we know not: they exhaust their energies before they are matured. Neither the ulcerative nor the suppurative process appear to appease the activity of the inflammation, which, unlike healthy inflammation, continues unmitigated after the establishment of these ordinary crises. Sometimes the crusts separate, and leave ulcers, which extend rapidly in one part of the body, while they are healing in another, several of such ulcers, like the primary sore, healing on one side and extending on the other; and this is the important diagnosis of phagedænic eruption, which appears like a congregation of local sores, each independent in its action, apparently increasing or granulating, without reference to any general influence derived from the system at large. From the head to the foot the body is sometimes covered with large circular patches of ulceration, varying in size from that of a shilling to that of the palm of the hand, ragged, bleeding at the margin, and covered with whitish matter at the base. The periosteum of the tibia, ulna, or any superficial surface, may become inflamed, but the disease rarely affects the bones primarily. Suppuration and abscess of the periosteum not unfrequently follow. Severe pains in the joints, with swelling from effusion within the cavity, and various other anomalous diseases, occur; but it is not easy to determine how far they, or, indeed, the affection of the bones or periosteum, are the true product of phagedænic disease; or whether these and many other symptoms may not be attributable to the practice, happily in these days somewhat less general, of administering mercury in exterminating doses in every malady which may bear the remotest analogy to venereal disease.

Mercury employed largely and repeatedly in some cachectic habits is competent to the production of all the constitutional forms of disease I have above enumerated —I mean mercury without venereal con-

tamination. Moreover there are certain forms of copper-coloured eruption (by which is meant eruptions of a brownish red, but very unlike the colour of copper), which appear on the face, chest, and arms, forming irregular patches or stains, coupled with small tubercles, and accompanied by pains in the limbs, and the same train of symptoms that attend the approach of the secondary disease of primary phagedæna, and all this may occur in a weakly constitution (and further than that I cannot define it), without either mercurial irritation or primary disease of any description, that can warrant a suspicion of venereal origin.

Of this fact I am confident:—that it more frequently follows primary disease. I do not doubt, but I am most desirous of impressing on your minds the fact, that the above train of symptoms will occasionally follow not only cachexia with mercury, but cachexia without mercury.

It is constantly urged by the advocates of mercury, that similar diseases to the above do not follow the large administration of that mineral, when employed for the cure of other diseases; and I grant that they do not frequently follow it; but I assert most positively that *they occasionally do follow it;* and were it administered under the same form and circumstances, they would succeed to it much more frequently. By the physician mercury is employed in the treatment of internal inflammation. It is employed in that and various other forms of disease in India, where it is administered in enormous doses. In the first place, although mercurial action is often by the physician pushed to ptyalism, yet its effects, though severe, are not so protracted; and they are not commonly repeated to the extent of two, three, or four distinct salivations, as we have frequent opportunities of witnessing, when employed with the intent of eradicating venereal poison. Again, these other diseases being mostly of an inflammatory type, indicate a force and vigour of constitution unfavourable to the development of phagedænic disease. We do not meet with inflammatory diseases in cachectic constitutions, neither can we look for a phagedænic diathesis, if I may use the term, in those subject to inflammation. Besides, the supposition does not appear to me very unreasonable, that the presence of any important disease, whether inflammatory or malignant, may afford to the constitution some protection against consequences that might occur without it, or that the two forms of disease may be incompatible, supposing the mercury to have a serious enemy to contend with. But phagedænic disease *does* occur after mercury administered for non-venereal disease, in cases in which that disease has never existed, but in the form of a short-lived gonorrhœa, and also in cases in which venereal disease has never existed at all.

Some three years ago, I attended the case of a woman of 53 years of age, who, in consequence of ill health, was sent home from India, where she had been severely mercurialized for supposed liver disease. Soon after her arrival in England, without the presence of intervening disease, she became the subject of phagedænic ulceration, which appeared on various parts of her body, and of ulceration of the pharynx. She gave a strenuous and indignant denial to the somewhat superfluous inquiry relative to the possible venereal origin of her malady. She was again salivated, and died.

I have known phagedænic inflammation of the pituitary membrane, necrosis of the spongy bones, and complete destruction of the septum narium, occur in two persons who, having never been the subjects of venereal affection of any description, had been severely and long continuously salivated for paralysis of the limbs. But it is needless to multiply cases which in reality add no force to the statement, but perhaps rather weaken it; and I shall therefore content myself by repeating my assurance —1st, that phagedænic is by no means necessarily venereal disease; 2d, that phagedæna may occur in certain constitutions independently of venereal disease, as the product of long-continued mercurial action; and 3d, that phagedæna may occur in cachectic habits, independently of either mercurial or venereal influence.

OBSERVATIONS
ON
COMPLICATED SURGICAL INJURIES,
INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.
Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 242.]

IV.—ON INJURIES OF THE EXTREMITIES COMPLICATED BY LESION OF BLOOD-VESSELS AND NERVES.

Rule of practice in recent cases.—Difficulties in secondary hæmorrhage with fracture of femur.—Amputation advisable.—Case.—Secondary hæmorrhage of the leg, with fracture.—Cases.—Exception to general rule.—Not applicable to upper extremity.—Mode of arresting hæmorrhage in the hand.—Injuries of the foot.—Injury to both artery and vein.—Amputation unavoidable.—Lesion of nerves.

In the last lecture, the nature, and principles of treatment, of some of the com-

plications connected with gun-shot fractures in the extremities were described. The complication I have reserved for the last is, however, the most troublesome and destructive, sometimes to limb, and not seldom to life. I allude to lesion of blood-vessels and nerves.

I have already stated the result of my own experience as to the frequency of these cases; and although I conclude that there is a larger average than the number stated by Mr. Guthrie, yet still they are fortunately not frequent—considerably less than one per cent. I say fortunately, for loss of a limb or of life is the consequence in a great majority of cases.

The practice is clear enough in a recent case; and to cut down upon the bleeding artery wherever it may be wounded can offer comparatively few difficulties to a surgeon well acquainted with the anatomy of the parts. It is far otherwise when hæmorrhage occurs by the detaching of the sloughs on the tenth, twelfth, or fourteenth day. Time enough has then elapsed for the supervention of extensive disease in the limb—for swelling, inflammation, suppuration, infiltration of muscles and cellular tissue with pus—the whole worse confounded with coagulated and fluid blood. These together so essentially alter tissues and the relative position of parts, that the ablest surgeons are likely to be foiled in the endeavour to take up deep-seated vessels in the midst of this putrid mass of disease. I have several times had to operate in such cases, and they have always proved the most difficult and anxious of any operations it has fallen to my lot to perform, and too often unsatisfactory in their result.

Of all the injuries to which the surgeon is called to lend the aid of science, perhaps there are none more harassing to him, or more dangerous and painful to the patient, than fractures complicated with wounded arteries, when the hæmorrhage occurs during the suppurative stage. It is in vain that anatomists describe to a hair's breadth the course of an artery: at this period it is not enough to know the relative anatomy of the parts injured—to be able to distinguish with facility in the healthy body, artery, vein, and nerve from each other by their texture—a surgeon thus prepared, bold, dexterous, and cool, will still occasionally fail.

The cutting down upon the arteries in the healthy living body to a well-informed surgeon is a certain operation, in which failure cannot be the result; at every step of the operation there is a land-mark; he places the patient or his limbs in whatever position he likes; he travels, in fact, on a well-beaten track, and cannot fail without gross ignorance and inefficiency. The case, as I have said, is very much altered when there is a shattered bone—a limb swelled by inflammation, and gorged with coagulated blood—neither time nor opportunity for removing the patient, and very little scope allowed even for change of position in the limb or body. The surgeon now takes the scalpel in his hand under circumstances of the most trying nature. Where are his land-marks? He divides the integuments in the direction of the artery he supposes to be the one injured; but then what follows? He comes upon cellular tissue in a state of ulceration—injected with blood, thickened and infiltrated with lymph: he cuts deeper—looks for his guiding tendon or the edge of a muscle—tendon, clotted blood, slough, artery, and vein, all are involved in one diseased structure! Well, the artery is compressed—the hæmorrhage is restrained—coagula, fragments of bone, and detached sloughs, are cleared out—and now he must be upon the artery—where is it? He looks in the line where he deems it ought to be, and sees nothing he can distinguish from the surrounding ragged and diseased structures—the pressure is relaxed—the whole of the bottom of the wound is instantly covered with blood—this is sponged away—again and again he sees the florid arterial blood spring forth from the bottom of the wound, but not from a bleeding mouth—not from a point, but at the same instant apparently from the whole of the ragged structure at the bottom of the wound; and, at last, it will occasionally happen that, convinced here his accurate anatomical knowledge is at fault, his manual dexterity unavailing, he will feel compelled to adopt some other measure. This is, in truth, a case where the best anatomist and most skilful operator may be disappointed and baffled.

I do not draw this description from fancy—above all, I do not give it that you may infer anatomical knowledge in such cases of little value. On the con-

trary, if the best acquirements cannot always ensure success, to attempt to operate in such instance without them would be the act of a madman, reckless alike of his patient's life and his own reputation.

Much judgment and experience are required to enable the surgeon to decide rightly on the practice which should be adopted in cases of gun-shot fracture with lesion of artery. If, in a recent wound, he will secure the artery, and other circumstances being favourable, the limb may be saved. If in a fractured femur, however, the femoral artery give way, particularly during treatment, when the thigh is necessarily much diseased, amputation will, I believe, always be found the best step. Nor is the diseased state of the soft parts, even where the incision must be made, sufficient to make the operation inexpedient: several remarkable cases illustrating this I could relate to you, and also of the absence of all necessity for dissecting out the sides of diseased sinuses. The following abstract will serve as a type for the class of cases to which I allude, and bears upon both the points under consideration. Here is the preparation resulting from the case.

Series of 5th May.—Charles Owens, æt. 25, 1st regiment, admitted with a slightly comminuted gun-shot fracture of the femur, oblique, extending through the whole of the middle third. Inflammation rapidly supervened, seeming to implicate the knee, with considerable heat and tumefaction of the whole limb. Suppuration commenced with an abundant discharge on the 13th day. Diarrhœa had supervened two days previously, and continued, with slight intermission, up to the 50th day. Loss of appetite—night sweats—loss of sleep—marked the progress of the case. On the 25th day a large abscess had formed in the lower and inner part of the thigh, causing him great pain, which was relieved by a counter-opening, whence flowed an abundant discharge of matter. From the 30th day the discharge considerably decreased. On the 50th day I was called suddenly to him while engaged in the morning visit, and found blood *per saltum* pouring from the internal wound. No moderate pressure on the artery, as it crosses over the spine of the ilium, was sufficient to arrest it, and on a momentary closing of one wound the blood burst out at the opposite orifice. Pressure with a firm pad over the handle of the tourniquet succeeded in restraining the hæmorrhage.

There was every reason to believe that the femoral artery had sloughed, or was injured by a fragment of bone, and taking into account the extensive disease of all the surrounding parts, I deemed it more expedient at once to remove the limb above the fracture, than to attempt to secure the artery.

This case, together with twelve other cases of gun-shot fracture of the femur, I had confided to Staff-Surgeon Johnston, of whose unremitting attention and excellent knowledge of every part of his profession I had received abundant proof. Indeed, to that gentleman am I much indebted for this rare and certainly valuable collection of preparations, so amply illustrating the subject of gun-shot wounds; for he zealously devoted much labour to carry into effect my wishes respecting them at all times and for a very long period.

To Mr. Johnston I left the operation, which was performed in a way well becoming an old pupil of Mr. Liston's. The parts where it was necssary to perform the operation were in a very unfavourable state. The muscles were greatly infiltrated and pale, the parts divided hæmorrhagic, and the vessels deprived af all power of retraction. An abscess ran up on the outside to a considerable extent, which I recommended should be left without any attempt to remove the sides. The vein was secured with a fine ligature, to stop a troublesome bleeding. The ligatures were cut short. As a zealous admirer of Mr. Liston's modes of operation, Mr. Johnston adopted the flap operation. The patient sank to an alarming degree during and for some time after the amputation.

The cure went on favourably, and the stump was entirely healed on the 70th day after the operation, notwithstanding the diarrhœa had continued for a considerable time subsequent. On examining the limb, the point of the superior shaft was found pressing against the artery: it had produced a slough, and ultimately rupture of the coats, the slough extending for about half an inch (see figs. 1, 2, 3). A large sac filled with coagula was cleared out, originally formed probably by matter. The feeling of power which

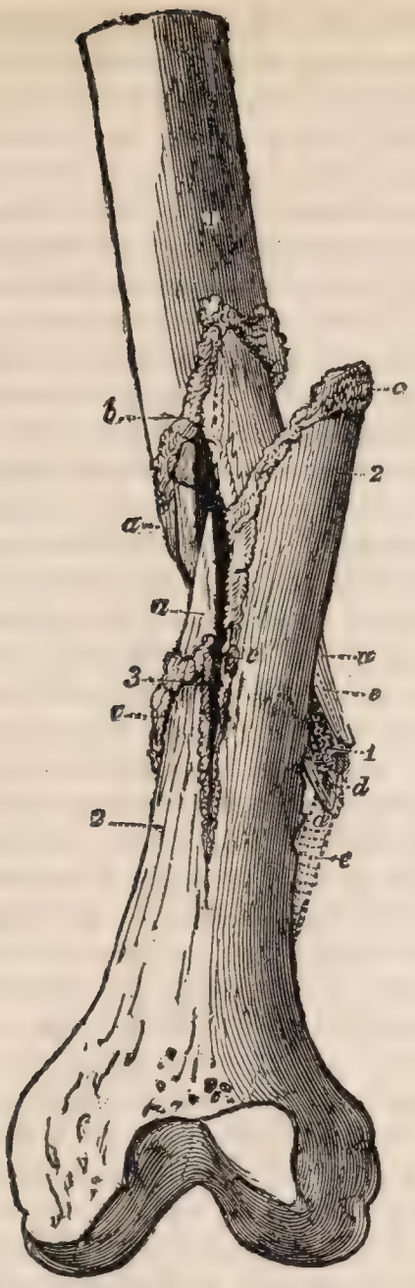


FIG. 1.

Bones as they appeared on dissection—anterior view.

1, 1. Superior shaft.
2, 2. Inferior do.
3. Deep longitudinal fissure, three inches and a half in length.
a, a, a. The sharp edges of the bone partially thrown off.
b. Bone in process of absorption.
c, c, c. Portions of callus thrown out.
d. The point of bone over which the femoral artery passed.
e, e. Dotted line, representing the course of the artery.

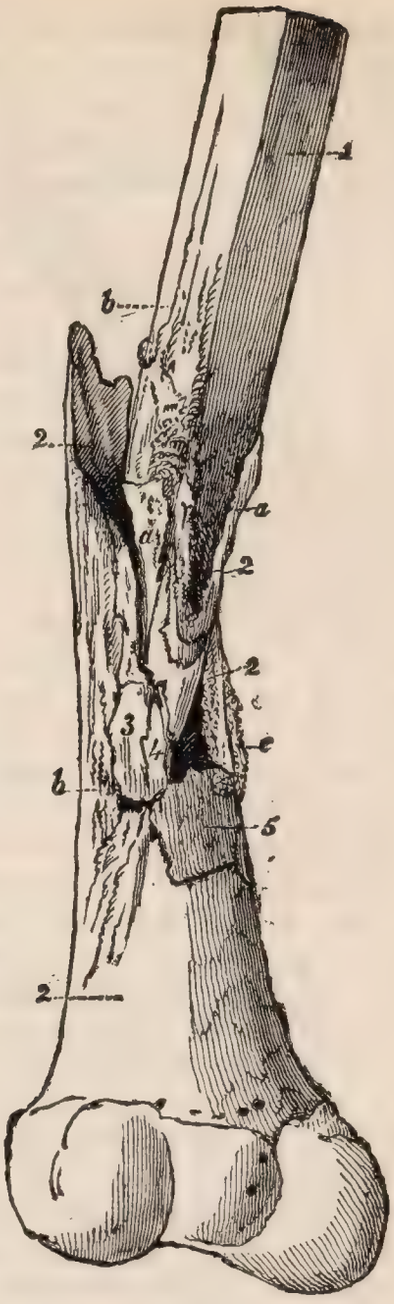


FIG. 2.

Posterior view: bones *in sitú*, as they appeared when the limb was removed.

1, 1. The superior shaft.
2, 2. The inferior do.
3, 4, 5. Three fragments firmly bound together, and only displaced by being forced inwards upon the cancellated structure.
a, a. The sharp edge of bone of the superior shaft undergoing the process of separation.
b, b. Bone in process of absorption.
c. A portion of callus thrown out near the separating edge of dead bone.

he used to express of moving the limb seemed to have arisen from the firm overlapping of the very obliquely fractured shafts. On dissecting the limb, a second ball (for both the entrance and exit of one existed from the first moment) fell out, which had been partly flattened by impinging against the bone. The situation which it occupied was not observed; the entrance of a second ball not having been suspected.

Dissection shewed that this, which promised, notwithstanding the diarrhœa and profuse discharge, better than the parallel cases, from the straightness of the limb, absence of pain, and slight

Fig. 3.

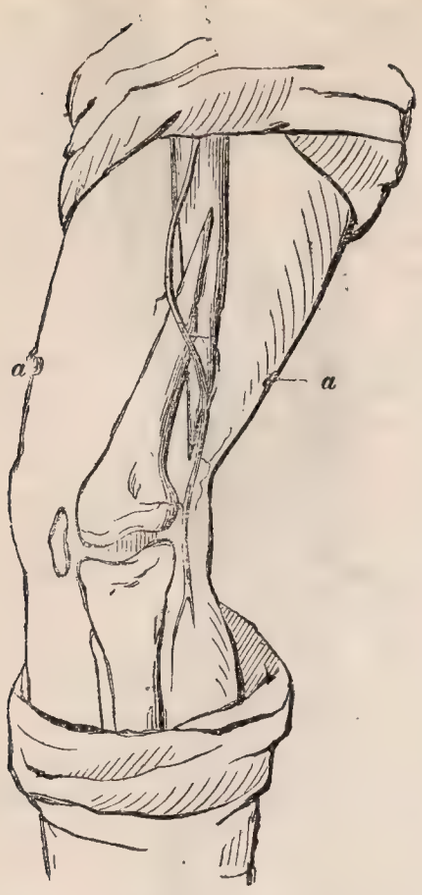


Diagram of the relative situation of artery and fractured bone.

a, a. Orifice and exit of ball.

comminution, was, in effect, before the hæmorrhage, quite hopeless. As you see in the preparation (figs. 1, 2), nature has made but very insufficient efforts to unite the bones, the callus thrown out is trifling, in comparison to the injury. In spite of an alarming exhaustion from hæmorrhage, and the shock of the operation — notwithstanding an obstinate diarrhæa and worms, he steadily improved from the first day after the operation, and was invalided with a good, sound, and fleshy stump.

Amputation in these cases is somewhat like Alexander's method of untying the Gordian knot. It cannot, or rather it ought not, to be resorted to except as a last resource. It must be held better by the surgeon, and so it will by the majority of patients, to lose a limb than life; but it must never be forgotten how fearful is the loss even of a leg or an arm, and consequently every means at our command should be employed to avert so painful an alternaitve.

It is no uncommon case among those which occur of secondary hæmorrhage, to find bleeding from the anterior or posterior arteries of the leg complicating a fracture of one or both bones. Here the arteries are not of very large calibre; they lie, for the greater part of their course, deeply buried in the muscular parts, considerably increasing the difficulty of placing a ligature upon them; yet, to amputate a leg which might otherwise be saved, because one of these arteries may be wounded and bleeds, cannot be contemplated under any ordinary circumstances.

When the parts are much swelled, however, diseased and engorged with blood, it will occasionally happen that an attempt to get at the bleeding point and secure it, seems altogether hopeless. I have already sufficiently dwelt upon the proper line of practice as a general rule —viz. to cut down through the intervening parts, and put a ligature on the artery at the injured part, above and below. The following is a case which must be taken as an exception, where that practice could not be adopted :—

Some three weeks after the action of the 5th of May, 1836, I was suddenly sent for by the orderly medical officer of the day of one of the hospitals. A violent hæmorrhage had occurred in a wounded officer, who, up to that period, by a very unusual chance, had escaped my notice. I found him blanched with pain, anxious suffering, and some little loss of blood: the orderly officer, one of the assistant surgeons, in no small perturbation, almost as white as his patient, watching the leg and squeezing the artery in the groin.

On examining the leg, I found a musket-ball had entered immediately below the head of the fibula of the left leg, and, traversing obliquely, made its exit low down on the inner side. I found repeated, but not long-continued, hæmorrhage had taken place from the upper and external wound. The leg was swelled, tense, and gorged with blood; extensive suppuration had diseased the whole limb. To cut down here for the anterior tibeal, the artery most likely wounded, as it passes through the interosseous membrane to the anterior tibeal region, in such a diseased state of the limb, seemed to offer so little hope of successful issue that I felt unwilling to add to his sufferings, which he expressed to be very great, by trying. To remove the limb was an extreme measure, to which I was still more averse. I therefore tied the femoral artery, which was very speedily and easily accomplished, and I was the

more inclined to adopt this practice from having already seen two cases in which it had been completely successful.

For several days he was free from pain, the swelling and tension of the leg disappeared, and I began to entertain sanguine hopes of a successful issue; but on the fifth evening I was again suddenly summoned to his bed-side; a still more violent hæmorrhage had taken place, not from the leg, but where the femoral had been tied, for which I was totally unprepared: the ease and gentleness with which the ligature had been placed upon the artery seeming to preclude the possibility of any accident there. On cutting down and separating a few partial adhesions, the artery was found to have sloughed; a gaping and ragged opening presenting in the artery. The vessel was secured again, half an inch higher up, but this time with greater difficulty; all the surrounding parts being more or less diseased, the vein closely adhering.

The patient resignation with which he bore his sufferings, and yet his anxiety to recover, independent of the peculiar circumstances of his case, interested me even more deeply than usual in the issue. After the second operation, while anxiously inquiring what hopes I entertained of his recovery, and expressing a grateful confidence in my exertions to effect it, I certainly felt as though I could have given a year of my own life for the power of adding it to his. I could not speak very confidently to him, and his thoughts wandering to the action which had cost him so dearly, still viewing it with a soldier's feelings, he gave expression to a bitter and repining thought, that no mark of honour even told those who were absent how he had done his duty in the field. I forget now by what mistake or chance he had not been included among those decorated for that action (for it appeared he had been noticed), but on returning in the evening later to see him, I placed in his hand a letter from the military secretary, by the Lieutenant-General's command, conferring a decoration and promotion at the same time, for his gallant conduct on the 5th of May. I almost rued my wish to give him at least one unalloyed pleasure in his trials; the gratification of two wishes dear to him even while life was doubtful, affected him so deeply. As he grasped my hand, the tears chased each other down his cheeks, and I began to think myself but a very indifferent doctor for my pains. Poor fellow! he died about a week subsequent to this, after labouring many days under a high irritative or sympathetic fever. The column of blood beat so strongly against the ligature, and the palpitation of the heart was so irregular and forcible, that I had daily feared to hear of his death by another hæmorrhage. The second operation however, was completely successful, both as related to the artery of the leg and the seat of ligature. On making the post-mortem, I found a pretty strong and adherent fibrinous plug in the upper portion of the artery. The vein and the lower part of the artery, although surrounded by disease, were thickened, and sufficiently consolidated to give fair promise of ultimate cure, as regarded the operation.

On making an incision through the external shot-hole down to the anterior tibial artery, a small portion of ball was found lodged, lying over the artery, exactly where it passes from the back to the front of the leg, which it had considerably lacerated. The ball had also passed obliquely through the head of the tibia, crumbling the bone very much in its passage; without, however, directly, by any fissure, implicating the joint. The posterior tibial and peroneal were safe; the soft parts were very extensively diseased.

The operation of tying the humeral artery for wounds of the radial and ulnar, is less admissible, inasmuch as it very rarely succeeds: the anastamosis is so free by the recurrent arteries, that I have seen the circulation re-established, and the hæmorrhage recur in three days, in a case where this expedient was adopted.

When hæmorrhage occurs in gunshot fractures of the hand, among the branches of the palmar arches, there is but little hope of applying a ligature successfully to the bleeding point or points. Well-adapted pressure and cold, however, will generally succeed. A good example of this occurred in one of the hospitals at Oporto, and highly creditable to the gentleman (Mr. Blair, now of Colchester) under whose care the patient had been placed. In a complicated wound of the hand, with fracture of the metacarpal bones, secondary

hæmorrhage supervened, without the possibility of discovering the mouths of the vessels from whence the bleeding came. By well-adapted and graduated compresses at the wrist (the one next the skin of cork), bearing upon the radial and ulnar arteries—by pressure, and the application of a refrigerant lotion in the palm—the hæmorrhage was successfully and permanently restrained, and a useful hand was saved.

These hæmorrhages occur less frequently in the foot; and it is remarkable the degree of injury the tarsal and metatarsal bones will sustain without entailing the loss of any portion of the limb. I have had many cases under my observation, where balls have traversed obliquely the bones of the tarsus, or both tarsus and metatarsus, and yet the foot, after a more or less tedious exfoliation, has been saved, and the wounds healed. Unless, therefore, the ankle-joint be seriously implicated, do not hastily condemn the limb. Nature will do much, if the surgeon aiding only, will not unnecessarily interfere.

To conclude the subject of hæmorrhage from wounded arteries in the extremities, I may observe, that if both the principal artery and vein of a limb be divided, amputation is the only resource, for mortification will otherwise inevitably take place.

A case of this kind occurred in September 1832, at Oporto, where the vitality of both humeral artery and veins was destroyed by the passage of a ball. He was in the same Portuguese hospital as the fractured forearm, and he was pointed out as a case where the Portuguese medical officers had decided in a contrary sense—viz. that no operation could with propriety be performed, because mortification had already extended to the chest. On examining the patient, I found the hand mortified, the same action extending nearly to the wound made by the exit of the ball. The side of the thorax adjoining was also livid and bluish, but it required but a glance to see that this was caused by the blow received from the ball at its exit, and had nothing to do with the mortification of the arm. I amputated the limb, therefore, amidst many grave doubts, in the presence of half the medical men attached to the Portuguese army, removing the arm at the shoulder, but leaving the head of the humerus in the joint; and sufficiently demonstrated to them that where my knife had passed no mortification had extended.

At the first dressing, the stump had healed nearly its whole extent by the first incision; but it was sultry weather, the arrangements of the hospital were bad, and I had the vexation of seeing my patient, after so auspicious a commencement, carried off by fever.

A lesion of the principal nerve is very uncommon, it is fatal to the usefulness of the limb. I have seen a case of lesion of the anterior tibial nerve, in a gun-shot wound of the leg, productive of a train of very distressing symptoms: the upper extremity became bulbous, and the slighest contact, from dressing, or the shaking of the room by a heavy step even, made him shriek with anguish; it was exposed, and about half an inch cut off, with complete relief to these symptoms. Here you see the bulb-like extremity, which was removed.

DESCRIPTION
OF AN
IMMOVEABLE APPARATUS,
FOR THE MORE EFFICIENT TREATMENT OF COMPOUND FRACTURES OF THE LEG, OF SIMPLE FRACTURES WITHOUT SPLINTS, AND OF INJURIES TO THE ANKLE JOINT.

To the Editor of the Medical Gazette.

Sir,

If you deem the accompanying description of an apparatus which I have for some years past been in the habit of using in the treatment of severe compound fractures of the leg worthy of a place in your valuable journal, I shall feel obliged by its insertion.

I remain respectfully yours,

F. A. Bulley,
Surgeon to the Royal Berkshire Hospital, Reading; and to Reading Dispensary.

I am aware that I may be thought guilty of presumption, and a desire to arrogate to myself the merit of discovery, in venturing to suggest any improvement in the ordinary method of treating severe compound fractures of the leg; but as the results of injuries of this description are frequently so uncertain, and as frequently involve the credit of the surgeon, and the loss of life or

limb of the unfortunate sufferers, I am sure that any hint, however slight, will be received in the spirit in which it is intended. I therefore take the liberty of offering a few observations on the means I have for some years past been in the habit of using to alleviate the protracted suffering incident to cases of this kind, with the view of bringing their management more immediately under the influence of mechanical art.

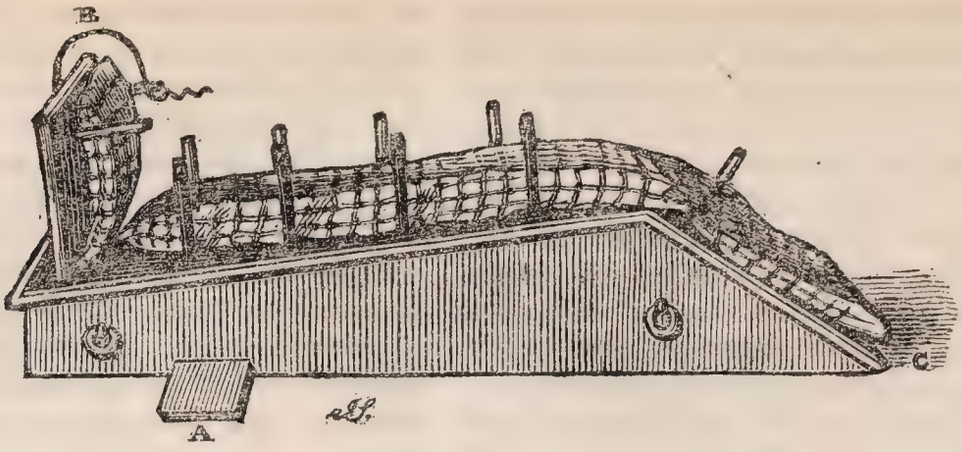
The frequency of accidents of this nature (some of them of extraordinary severity) which, owing to the vicinity of the works of the Great Western Railway, have occurred in the neighbourhood of this town, has given me extended opportunities of closely observing their progress, and remarking the comparative inapplicability of the mechanical means employed to assist in the restoration of the injured parts, more especially as regards their complexity and expensive construction, and their utter incapacity to produce what I insist upon being absolutely indispensible, *i. e.* a permanently elevated position of the fractured limb above the horizontal level of the body, and this led me to direct my attention particularly to this part of the treatment. The result has been that, after many trials, I succeeded in constructing the apparatus which I am now anxious to describe, and which has since been used in the casualty ward of the Dispensary and in private practice, both by myself and my eminent colleague, Mr. Maurice, with the most happy and successful results.

It has been acknowledged by surgical authorities of all countries, from the days of Heister down to the present time, that the invention of any apparatus for the treatment of compound fractures of the leg, which would have the effect of bringing the injured limb into an easy elevated position above the level of the body, and so retaining it, was a great desideratum. The subject has therefore at various times engaged the attention of mechanical surgeons, and many ingenious but elaborate and expensive contrivances have resulted. They have generally however been found to fall short of the object intended The apparatus invented by Mr. Hagedorn for the suspension of the limb, approaches more nearly to the attainment of the required position, than any I can call to mind; but it is probable it can never be brought into general use owing to the intricacy of its machinery, which is difficult to understand, its liability to derangement, and the impossibility of adopting it in hospitals, or the houses of the poor, who are most frequently the subjects of these accidents.

There can be no doubt, then, that the end to be principally aimed at in the treatment of compound fractures of the leg is to obtain the elevation of the injured limb considerably above the level of the body, in order to prevent excessive vascular engorgement, and to moderate, in some degree, the inflammation and subsequent suppurative process which almost always follows in the train of these accidents. The apparatus I am about to describe accomplishes this purpose certainly and easily, and has the additional advantage of remaining immoveably fixed, during the whole progress of the cure, in the position which it assumes when first applied; my object being to suggest a simple and economical contrivance, by which all the advantages to be derived from the permanently elevated position, may be insured at little cost and of easy application.

I have found that the apparatus I am about to describe has the effect of bringing the muscles of the fractured limb into a state of the most complete repose, such as is not to be obtained by any of the machines in ordinary use; and in proof of this I can safely say, that I have never known, in any case where it has been employed, the occurrence at any period of the treatment of any painful spasm, or muscular catchings, or any consequent displacement of the fractured ends of the bone.

The apparatus itself is simple in the extreme. Its three sides are formed of beech boards, an inch thick, which give it great solidity, and, from its peculiar construction, a state of permanent immobility. It has no machinery to regulate the inclination of the planes, as its mode of action depends upon a fixed mechanical principle; it cannot, therefore, be made to answer the purpose of a double-inclined plane, its only object being to produce the elevation of the fractured limb in a permanent and easy position above the level of the body. *A* is the cross bar upon which the machine moves. The pressure of the nates and lower part of the trunk upon the thigh-piece at *C* depresses it, and consequently raises that portion of the



machine upon which the leg of the patient rests, by its partial revolution upon the cross bar *A*. By this pressure, that portion of the machine anterior to the transverse bar (*i. e.* from *A* to *C* constituting its long lever) becomes imbedded in the mattress, and secures the permanently immoveable position of the apparatus. It may be said that on the removal of the nates and trunk from the thigh-piece at *C*, the machine would resume the position of the double-inclined plane, as it appears in the cut; but this will be found not to occur, as it is prevented by the greater length and weight of the lever from *A* to *C*. There is a double row of pegs upon the upper plane, which are moveable, and afford great facility in dressing the limb: between them is placed a long pad covered with oiled silk, the edges of which are bent up between the pegs, so as to form a hollow bed for the leg.

The footboard *B* is so constructed as to slide in a grove in the upper plane, for the purpose of regulating its required length. In the last improvement, it is rather a greater inclination than is represented in the drawing, in order to produce more perfect flexion of the foot. Into its upper part is inserted a curved iron rod, which extends horizontally over the lower part of the machine. This rod is formed at its extremity into loops, over which are drawn the tapes of a sling, which are placed under the leg just posterior to the os calcis. I have found this sling to be useful in regulating the lower portion of the fractured bone, more steadily and tenderly than it could be done by hand, by slightly tightening the tapes when necessary; and also in relieving the exquisite neuralgia, which so often affects the heel in long standing cases, and the sloughing of the integuments from pressure. A very slight movement of the tapes will effect this without the least displacement of the fractured ends of the bone. I may here mention, that in the accompanying woodcut the angle of incidence of the planes is made to appear too great, owing to a mistake of the artist. An apparatus made *exactly* according to the drawing would not produce any material elevation of the limb, but it serves very well to explain the action of the machine.

Mr. Weiss, of the Strand, at whose house the apparatus may be seen, has undertaken to construct it, after a pattern I sent him, and to explain its use according to the directions which accompanied it. A model of the machine may also be seen in the Museum of the Society of Arts, where it has been deposited at the request of a gentleman connected with that institution.

I conclude with some general directions for its application:—A piece of deal board, about 8 inches wide, must be placed across the bedstead, on whose frame it would rest at the distance of about 18 inches from the foot; over this are to be placed the mattress, bed, and sheets. The cross bar of the machine is then to be placed in a line parallel to and over this board, of course the mattress, &c. intervening. On placing the limb upon the machine it will be seen that the weight of the body depresses the long lever at *C*, and therefore raises the lower part of the apparatus, in consequence of the board across the bars of the bed preventing the depression of the machine at *A*. Its action may be said altogether to depend upon the movement of the long lever anterior to the cross bar upon the bar itself.

I will not occupy your valuable pages at greater length, trusting you will allow me in a future number to make some further observations on the cases of compound fracture, in which I have used my invention with success; as well as some remarks upon its ap-

plication to the treatment of simple fractures without splints, and of some other injuries affecting the lower extremity.

ON THE ADVANTAGES OF A

SPECULUM CUSHION.

By J. L. Fenner, Esq. M.R.C.S.

(*For the Medical Gazette.*)

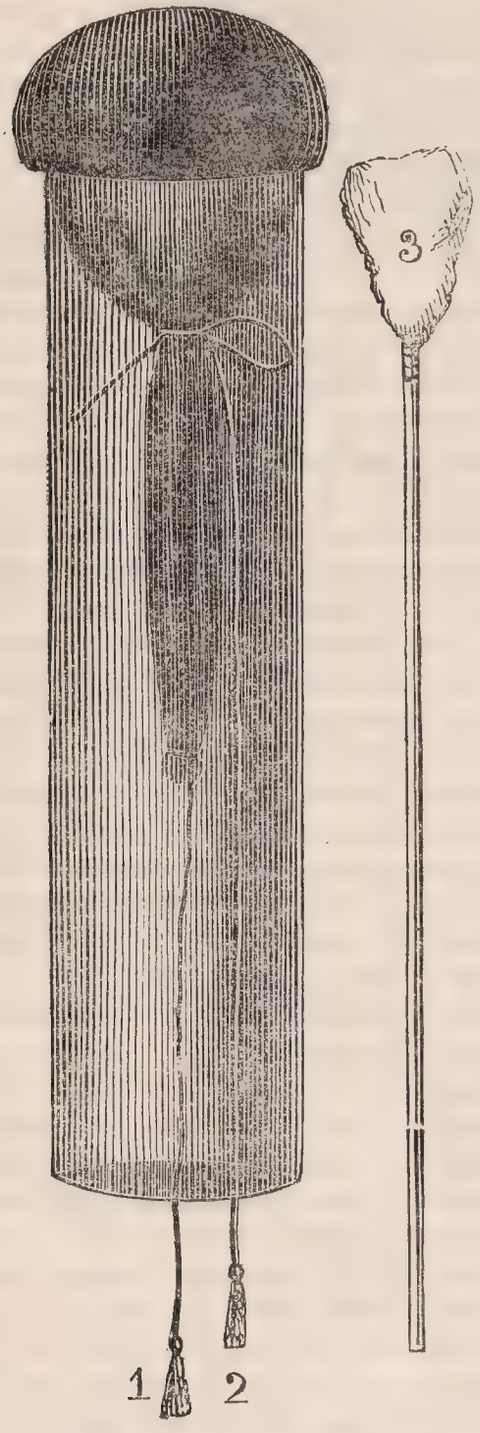
One of the most important modern improvements in the art of healing, in this country, is the departure from the conjectural mode of treating obstinate diseases of the uterus, and the adoption of physical examination by the speculum, so as to bring the various changes which occur in that organ within the scope of ocular examination, and enable them to be studied with as much accuracy as the ophthalmic surgeon displays in the investigation of his peculiar cases. The advantages of the speculum uteri arise from the same indisputable principle which has ever been acted on in the practice of ophthalmic and general surgery. By its employment cases which had been previously mistaken or overlooked—sufficient in number and importance to silence the abettors of the conjectured system of treatment—are daily becoming revealed in their true character.

On the introduction of a comparatively new instrument into the *private practice* of medical men, it might have been naturally expected that there would be a variety of opinions relative to the form of the instrument, and that each practitioner would extol that with which he was most conversant, without considering the respective merits of each, or what desideratum still remained to be accomplished by the inventive faculty in either one or the other of them. Hence Ricord's two-bladed speculum is the *only one* adopted by some; but this instrument is made but of *one size* for *every case*, and, moreover, affords not the least protection to the surrounding parts when caustic applications or leeches are used. The three and four-bladed specula are severally extolled, and are liable to the same objections. The metallic tube of Recamier, and its imitations in glass, find their advocates also; these possess the anatomical absurdity of gradually increasing in circumference towards the handle to at least twice the size of the end in contact with the os uteri. Thus only an imperfect view is afforded of a very small portion of the cervix uteri, while the large diameter of the speculum is preposterously applied to the perineal portion of the vagina, the part the least disposed to dilate, and the most sensitive of pressure.

A tube of glass, or German silver, two lines in thickness, if made of *the same diameter throughout*, possesses every advantage of the various bladed specula; and if the difficulty of passing, without giving pain, a tube of sufficiently large size to expose the whole extent of the cervix uteri be obviated, it must be superior to any other form of speculum, being free from the objections already stated. Without the addition of artificial contrivance, the introduction of such a tube of sufficiently large diameter would be attended, in many cases, with pain,—probably with injury. For the purpose of using a tube of requisite size with facility, and without pain, I attach an air-cushion in such manner that its soft elastic projection might previously produce dilatation, and, by overlapping, might protect the parts from the pressure of the edges of the tube, as seen in the accompanying sketch.

Small bladders, or the crops of poultry, partially distended with air, and disguised, by being stained with orchel, answer the purpose of the cushions, and can readily be procured. The cushion is formed by twisting the depending portion of the bladder so as to force the air into its superior part, and then tying it with a silken cord in a slip-knot, leaving the end long enough to extend below the bottom of the tube, (*fig.* 2.) As represented in the sketch ready for introduction, it is to be smeared with some unctuous substance, and then, being held in the right hand, the cushion is to be applied to the vulva with firm but gentle pressure, and very gradually passed on in the direction in which the cervix uteri has been previously discovered, by the taxis, to be situated. As soon as the speculum, with its cushion, has passed the perineal portion of the vagina and has entered the pelvic cavity, the cord (*fig.* 2) is drawn to untie the slip-knot, and enable the air which distended the upper portion, and formed the cushion, to rush into the depending part; when, by

means of the cord (*fig.* 1) the tube is left clear, by the bladder being withdrawn.



The speculum cushion was invented for the especial relief of cases of irritation and inflammation, which thus may be examined without producing pain, and a consequent increase of symptoms. In cases where little irritability exists, I adopt a more simple plan, but upon the same principle of producing previous dilatation before the edges of the tube press on the vaginal structure. A piece of box-wood of two inches in length is, by a turner, accurately fitted to the inner edge of the tube, one half-inch of the end being conically sloped to a rounded extremity. By boring a hole in each cylinder, a common handle may be used for various sizes, and may be removed when not in use. I trust that this will be rendered sufficiently intelligible by looking at the former sketch. The part overlapping the edges of the tube is supposed to be removed, and the cushion to assume a more conical form. Where the slip-knot appears may be supposed to be the part of the cylinder where the hole is made to receive the common handle; and, parallel to this, if the stem (*fig.* 3) be the handle, the cylinder may be removed as soon as the tube has passed the perineal portion of the vagina.

My speculum case contains tubes of three sizes two lines in thickness, and five inches in length. The diameter of the smallest size which I employ is one inch, including the thickness of the tube; the second is one inch and a quarter; the third measures one inch and a half in diameter. Besides the advantages of introducing by this mode the tubular speculum, with facility and without pain, and gaining by it every possible information, it possesses peculiar intrinsic merits such as the following:—The whole extent of the mucous coat of the vagina can be explored most accurately, and passed in review under the eye as it is pressed into the cavity of the tube. I lately attended a case of leucorrhœa with one of the most able advocates of Ricord, and discovered, by means of the tube, three chaps on the posterior part of the vagina, which could never have been seen with a bladed speculum. The minor operations so frequently required in the treatment of diseases of the uterus, are also rendered more efficacious and safe by the use of the tube, which may remain a sufficient time without causing any pain. The application of nitrate of silver, ten grains, in a drachm of water — most useful in abrasion or ulceration of the os and cervix uteri—may be readily used. The injecting of the cavity of the uterus with the same solution, when the peculiar glairy discharge is seen to issue from the organ, may be readily accomplished, not by the instruments usually sold for the purpose, but by a silver canula fitted to a small bone syringe: the unimpregnated uterus will contain but about half a drachm of fluid. Leeches to the os and cervix uteri, so valuable in congestive and inflammatory engorgement, and at the critical periods of amenorrhœa and dysmenorrhœa, may, by the tube, be advantageously applied to a large circumference; but where the os

uteri is seen to be open, I would suggest the application of a piece of lint to prevent the ingress of the leeches, as troublesome though not dangerous symptoms would presently supervene.

In the above engraving I have given a sketch of a small mop or brush (*fig.* 3,) one of the most useful and convenient, though the most simple instrument for removing mucus and other substances from the os and cervix uteri, and enabling its structure to be clearly examined, and also for applying solution of caustic, &c. It is a skewer of wood, about six inches in length, having a piece of lint or wadding tied round the top.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

The Principles and Practice of Medicine, founded on the most extensive experience in Public Hospitals and Private Practice, and developed in a Course of Lectures delivered at University College, London. By JOHN ELLIOTSON, M.D. F.R.S. Edited by Dr. Rogers. pp. 1080.

How much soever of disrepute may have attached to Dr. Elliotson on account of his recent mesmeric hallucination, few we think will be disposed to question his zeal and activity as a physician and as a teacher of the Principles and Practice of Medicine. We are glad to perceive in the work before us no mention of mesmerism nor of the magnetic Miss O'Key, whose performances we opine have attracted quite as much of public attention as any *prima donna* could expect or desire. It would have been a subject for deep regret that the details of such a juggle as animal magnetism should go down the stream of time in the same bark, with the judicious views, philosophical deductions, and sound methods of treatment, here developed.

Dr. Elliotson ought to feel highly grateful to the institutors of hebdomadal medical journals: had there been no MEDICAL GAZETTE or LANCET he might have fared in 1838 as in 1818. He gives the following account of his professional experience:—

"For many years I toiled, and saw most of my contemporaries, nay of my juniors (who worked less, but were wiser in their generation) pass by me. I published work after work—edition after edition; and paper after paper; was honoured with a place in the Transactions of the first medical society in Europe. I was physician to a large metropolitan hospital; and had attended there, and gratuitously out of doors, above twenty thousand patients. But in vain. In 1828 my profession was no more lucrative to me, was as short of my actual expenses as it had been in 1818. At that time the Lancet was pleased now and then to publish a clinical lecture delivered by me at St. Thomas's Hospital; and my practice at once doubled. The following year it published the greater part as I delivered them, and my practice doubled again. Last season the Lancet published them all, the MEDICAL GAZETTE followed its example, and my practice has now doubled a third time."—P. 10.

It will be generally admitted that to an extensive acquaintance with physiology and pathology, Dr. Elliotson unites the faculty of accurate diagnosis and acute discrimination of the best methods of treating disease.

The point on which we chiefly differ from Dr. E., relates to the doses of the remedies, which we think he sometimes carries to an injudicious, not to say dangerous extent. In reference to this part of the subject we subjoin the following extract:—

"Much remains to be accomplished in the discovery both of the virtues of medicines already in use, and of new medicines, or such modifications of old ones, as almost entitle them to the epithet 'new.' Every advance in our knowledge of the essential nature of diseases, will no doubt enable us to improve our application of remedies upon generel principles;—to improve our 'general indications.' But without any additional knowledge of the nature of diseases, cautious trials—guided by the best analogy we may discern, or by some fortuitous occurrence—will enable us (if we are disposed to labour) to effect much in extending our knowledge of the powers of particular remedies over particular diseases. Lord Bacon regrets that physicians apply themselves so exclusively to general indications;—neglecting the peculiar properties of remedies in particular dis-

eases. Such experimental facts, however insulated they may at first appear, gradually arrange themselves, with others, into general principles; and thus what is at first little better than empiricism becomes science. I confess that I look with more hope to this source of improvement, than to any other." —*Preliminary Observations*, p. xx.

The learned professor advises students "not to plague themselves about nosological arrangements." He thinks, however, Cullen's First Lines, by Gregory, the best they can peruse. He adds, "there are many other excellent works;—Dr. G. Gregory's, Dr. Mackintosh's, Dr. Good's, &c. His own method embraces a two-fold arrangement.—

"First, I shall consider general diseases, such as affect every or most parts of the body—inflammation, scrofula, and various other organic diseases; and afterwards, having considered all the affections which may attack any part of the body, I shall proceed to consider those affections and all others, whether functional, mechanical, or parasitical, as they attack the body from the head downwards—*a capite ad calcem*." P.59.

In accordance with the above advice, the editor, Dr. Rogers, has furnished an Appendix, containing a synopsis of Cullen's Nosology; he has also added some ingenious synoptical tables by Dr. Fletcher, with other useful extracts from various sources.

To the readers of this journal no extracts can be necessary, in order to shew the manner in which the subjects are handled. Perhaps the chapters on Fever, Phthisis, and Diseases of the Heart, may be reckoned the best; but almost every page teems with valuable information. The details connected with Insanity, and some other topics, are so illustrated and enlivened by curious facts from the writings of poets, historians, and philosophers, as to render them highly interesting and entertaining, apart from the important practical matter with which they are interwoven. The style, if not always the most pure and elegant, is nervous and perspicuous; and the colloquial form in which the sentiments were originally delivered, being preserved, imparts an air of ease and freshness which an author's more laboured productions seldom exhibit. Much praise is due to the editor for the exemplary manner in which he has acquitted himself. He has not overloaded the text with superfluous notes, but has appended just so much as was necessary for the purpose of illustration and to fill up some hiatus. He has also considerably improved the language heretofore marred by the inaccuracies and omissions of reporters; but we will let him speak for himself:—

"No liberties have been taken with the sense, which has in every instance been strictly adhered to. The alterations, numerous as they have been, have been confined to the language, which has been carefully revised throughout. The repetitions and recapitulations incidental to *vivâ voce* delivery have been expunged; the mistakes of the reporter have been corrected; long sentences have been broken up into more manageable masses; intricacies have been unravelled and asperities smoothed; and the greatest pains have been taken to convey information the most valuable, in language the most perspicuous. * * * He has little doubt, therefore, that the present undertaking will be hailed with satisfaction; and that a due share of support and encouragement will be awarded to the enterprising publisher, for producing this work in a style commensurate with the valuable information it contains."—*Preface*, p.vi.

We join in this reasonable expectation and strenuously recommend the work to all who feel interested in the advancement of Practical Medicine.

The Surgical Anatomy of the Perinæum. By THOMAS MORTON, formerly one of the House-Surgeons of the University College Hospital. Illustrated with Lithographic Plates and Wood Engravings. 8vo. London: Taylor and Walton.

A WORK on the anatomy of the perinæum cannot be expected to offer much that is new in the description of this well-studied portion of the human body. To give the student the best information and directions as to his proceedings in the dissection of this region—the most accurate description in the simplest language—the *detail* in anatomy, as inseparably connected with the *practice* in surgery; the latter giving importance to the former, and the former decision and safety to the latter, is all that can be looked for, and all to be found here.

The plates illustrating the letter-press are well drawn and carefully engraved, and shew with great distinctness the parts to be represented; that exhibiting the side view of the pelvis is, we think, clearer and more to the matter than any we have seen before. We can conscientiously recommend the work, and are glad to find that other equally important regions are about to be treated of by Mr. Morton—we hope in the same simple and useful manner.

MEDICAL GAZETTE.

Saturday, May 25, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

OF WHAT MAY PATIENTS JUDGE?

It is no bad test of advancing civilization that good things become cheap. Another test, or perhaps rather a particular case of the last one, is, that government becomes lenient; so that the sovereign sway is purchased by every one subjected to it at the least possible cost in person, if not in purse. As even the most sceptical confess that government, if not an unmixed good, is at least a necessary evil, they must equally acknowledge that this change is an improvement, and that in spite of infinite grumbling (or through it) the world advances. Three centuries ago, the stake, the wheel, and the gallows, decided every controversy, and it would have been thought as absurd to deny their efficacy, as criminal to doubt their justice. Milder punishments succeeded each other as time moved on; ruinous fines or long imprisonments were first substituted (to the great grief of each *laudator temporis acti*), until, at length, in these ultimate ages, heterodoxy may be broached with safety; and the most unreadable quarto or the smartest pamphlet will rarely procure the author lodgings at the national expense. After a thousand transmigrations, vengeance has comfortably settled herself in the pen of the reviewer or the epigrammatist. Even the worst and most angry controversialists yield to the irresistible force of the good sense around them, and it would be impossible, in the present age, to get any one to play Calvin to a second Servetus.

Now, as all the institutions of society preserve a kind of harmony with each other, our profession, both in its outward mould and in its manner of practice, has always borne the impress of the opinions current without its precincts. In half-civilized ages, the exercise of power is not restrained by very nice rules of law, and in the days of the High Commission Court and the Star Chamber, we need not be surprised to see the President and the Censors of the College of Physicians constantly sending quacks to Newgate by their own warrant. It was probably thought that such a power was beneficial to the state, and men were unwilling to examine too scrupulously whether it was expressly given in the charter. In small things as in great, the College yielded to the pressure from without, and some minutiæ shew as clearly the bent of public opinion, as the shells and weeds cast upon the beach point out the direction of the storm which has thrown them there. Thus in the 16th century we find the College plucking a coppersmith who would fain become a physician, because he could not decline *corpus;* so strongly and so naturally did the stream set in favour of classical learning, at a period when almost every thing worth knowing was shut up in the dead languages!

The practice of the healing art owns the same genial influence of time. No longer are the irons heated for the daily rounds of the surgeons of St. Bartholomew's hospital, as in the days of Pott;

no longer are two or three patients placed in one bed, as in the Hôtel-Dieu of fifty years ago; and the monstrous salivations of the old school live only in memory. The government of the insane, too, has partaken of the general improvement. At a ball given at the Salpêtrière, a couple of years since, the insane women of the establishment crowned the bust of Pinel with flowers —of Pinel, who first delivered them from the system of terror, and discovered that even the mad might commonly be ruled by persuasion.

Perhaps no one carries this medical tolerance further than Dr. Holland, who, in the judicious work * from which we lately selected a subject for comment, has a chapter "On points where a patient may judge for himself."

The first of these points is temperature. This the patient may almost always choose for himself; as it is rare indeed that his sensations deceive him in this particular, or separate the *utile* from the *dulce*. Perhaps in some obscure spots, the old theories, which recommended a hot regimen in febrile diseases, may still linger among the people; but these fancies are immediately dispersed by the first touch of the distemper, which restores every one alike to the wholesome instinct of nature. In the hot stage of an intermittent, Cæsar cries out,

> ——"give me some drink, Titinius,"
> Like a sick girl;

and we suppose that every patient labouring under scarlatina would desire the fire to be put out, and the blankets to be taken off, just as if he had read Sydenham or Heberden. Hence, if an error is committed in such cases, it will be by the bystanders, not by the sufferer. On the other hand, it is just possible that a student fresh from the schools, with an abstract of Currie and Bateman in his note-books, might push the cool regimen too far, and forget to confine the cold affusion to those cases where the skin is hot and dry; but here again the patient would give a useful lesson to his attendant, and teach him those limits.

"Quos ultra citraque nequit consistere rectum."

In the second place, the patient's desires as to food and drink may generally be complied with. Dr. Holland, however, very properly observes, that "this class of sensations is much more nurtured out of the course of nature than are those which relate to the temperature of the body." Many patients, it is true, while in a state of *quasi*-health, have accustomed themselves to a temperature too high, or to an atmosphere too close or too damp; but what is this to the superfluity of garlic, cayenne, champagne, gelatine, and puff-paste, indulged in by one class; or the gin and eel-pies--the cheap luxuries—of another? Hence this rule is to be received with greater limitations than the first one; and the physician must often delay the food which he does not totally prohibit. The more frequent duty of the practitioner, however, will be to defend the patient from the invasion of hostile niceties sent with friendly intent, which too often, especially in the lower ranks of life, mar the best concerted plan of treatment. According to an article in the *Gazette des Hôpitaux*, provisions of all sorts are smuggled into the Hôtel-Dieu, at Paris, with a zeal and ingenuity worthy of a better cause.

Dr. Holland carries his acquiescence so far as to assert, that "it is not wholly paradoxical to say that we are authorized to give greatest heed to the stomach when it suggests some seeming extravagance of diet." He mentions, in particular, the early stage of recovery from

* Medical Notes and Reflections.

long gastric fevers as affording instances of the advantageous observance of this rule. We have no doubt that this extreme leniency is justifiable, and even necessary in some instances; but, sooth to say, we rather dread the commotion or absolute rebellion that its promulgation will excite among the opulent dyspeptic: the demand for pasties and noyau will, we fear, grow intolerable. We must observe, though, that the indulgence is restricted to cases of actual illness, and does not extend, therefore, to habitual indisposition.

Thirdly, the sick may generally be allowed their own judgment in exertion of body, posture, fresh air, and continuance in bed. Minute and ill-timed interference in such matters often does harm; though on the other hand, in some chronic ailments of a nervous and dyspeptic kind, it is necessary to urge the patient to use exercise against his inclination, and even when the first trials are seemingly unsuccessful.

Fourthly, the skilful practitioner will often ascertain from the patient the propriety of employing particular medicines, or, indeed, the propriety of employing medicines at all. There is no doubt that idiosyncrasy as to the effects of drugs is more common than is ordinarily supposed, and might often be learned at once if the first examination of the patient were extended to its due length. Again, the extreme nauseousness of many remedies ought to be a sufficient reason for amending their composition, especially when they are administered as tonics. How can a draught which excites nausea be expected to give tone to the stomach or the frame? To which we will add, with Dr. Holland, that when the period of convalescence has arrived, the patient's stomach, weary alike of pill and mixture, frequently demands an entire release from medicine—a sensation as infallible as those by which the exhausted traveller knows that his muscles will bear neither up nor downhill work, but require pure and simple relaxation. On the whole, these varied forms of license indicate a great advance in rational treatment; and put forth, as they are, by so sensible and so experienced a physician, seem to point to the speedy approach of a period when patients of the more intelligent class shall be instructed in the nature of their disorder, and their suggestions regarding its treatment listened to as worthy of attention.

CLINICAL LECTURE

ON

OSTEITIS OF THE UPPER THIRD OF THE FEMUR, SIMULATING HIP-JOINT DISEASE,

Delivered in St. Vincent's Hospital, Dublin,

By J. M. Ferrall, Esq., M.R.I.A.
First Surgeon to the Hospital.

Osteitis of Femur simulating Hip Disease—Mr. Ford's Opinion—First Stage: Diagnosis—Second Stage: Diagnosis — Third Stage—Anatomical Characters.

"Disease of the hip-joint," says Mr. Ford, "in every stage of its progress, from its earliest appearance to its final catastrophe, is marked throughout by peculiar and characteristic symptoms." Such, gentlemen, is the opinion of the author of the most original and not least accurate history of Hip Disease that has, perhaps, ever appeared. I have, however, had occasion, more than once, since the commencement of the present session, to call your attention, in the wards of this hospital, to a disease of a nature altogether different from morbus coxæ, and yet presenting so many and such striking points of similarity to the latter affection, that the tact and experience of able men have, as you yourselves have witnessed, been foiled by the resemblance.

There is a case of this kind at present under our view; and as there are also two cases of morbus coxæ under treatment in St. Patrick's and St. Joseph's wards, I have selected this subject for the matter of our present inquiry.

The disease in question, as far as I have had opportunities of observing it, is met with in an acute and a chronic form. The case at present in the hospital is of

the former character; it will be more convenient, therefore, to commence with the history of that variety of the complaint to which it belongs.

In the acute form the disease commences rather suddenly, and without any previous indisposition observable by the patient. He may retire to rest after the enjoyment of exercise, without even the feeling of fatigue, and be disturbed during the night, or awaken in the morning, with severe pain, referred to the hip and extending to the groin and knee. The pain is so much aggravated by any attempt at movement, that he is rendered perfectly lame; and in severe cases the effort to use the limb may be so very painful that he is totally unable to leave his bed. In the humbler walks of life, however, where little alarm is excited by the mere occurrence of pain, the child may be suffered to struggle to the erect or sitting posture every day for one or two weeks, until his altered appearance become too striking to be overlooked. During this period a state of fever is continually present; the pulse is very frequent; the skin hot; thirst urgent, and tongue coated; the urine is scanty and high coloured; there is flushing, occasional headache, and tendency to vomit; the severity of the pain may be less constant, or may undergo periodical exacerbations, generally occurring towards evening, or in the night. The sleep is disturbed, and accompanied by moaning and evident distress; or in aggravated cases interrupted by delirium. The symptomatic fever is, in fact, generally well marked; and it is worth your remembering that it may run so high as altogether to mask the local disease. I saw a case in Dorset Street, in September last, where delirium was the prominent symptom, and this lesion of the intellect deprived the medical attendant of all information as to the suffering endured by the patient for several days, during which time the real nature of the complaint was not even suspected. Such are the early symptoms of the complaint, which in very acute cases are manifest to the patient or his friends: when the fever is less urgent, and a state of feverishness, loss of appetite and rest, are the general symptoms, the little patient is generally allowed to creep about, although unable to use the limb. If you are consulted at this period of the disorder, two or three weeks from the accession of the attack, you will perhaps be told that perspirations are beginning to be added to the fever, and that he has lost flesh considerably. On inquiry, the pain is referred to the hip about the trochanter to the groin and knee, sometimes as if passing through the joint, and occasionally extending lower down on the outside of the leg a few inches below the head of the fibula, and accurately defined. If you now proceed to examine the limb, the following will be found to be the phenomena:—

If the patient be in bed he will generally be found lying with the thigh fixed on the pelvis, and inclined towards the mesial line. The comparative length of the two limbs is a point not easily ascertained, on account of the bent position of the one affected; but one knee has sometimes appeared to project more than the other. The loss of power in the muscles about the hip is evident when he alters the position of the limb, for you will observe he accomplishes this object by insinuating the opposite foot under the ankle of the diseased side, and lifting it to the place intended for it. Pressure, even lightly made, on the trochanter or groin, causes pain, and this pain occasionally extends as far as the knee.

In the erect posture there is complete inability to sustain the weight of the body on the affected limb; the knee is advanced, the toe resting on the ground, and the heel supported against the front of the other leg. The pelvis is obviously lower on the affected side; the nates of that side is flattened, and sinks; the obliquity of its lower margin presenting a marked contrast to the horizontal level of the sound one; the muscles of the affected leg are wasted in a remarkable degree. If, while standing before you, he changes his position to either side, or is lifted to the right or left, the sound leg is at once placed in the line of the centre of gravity, to support him; but the affected limb either remains as it was before, or is carried after its fellow by the patient, who instinctively raises it by one or both hands, and places it in its new position.

So far, gentlemen, the phenomena resemble those of acute disease of the hip-joint so closely, that you might easily suppose I had been describing the latter disease; but a more searching inspection will develop other phenomena capable of correcting the first impression, and suggesting a more precise view of the nature of the complaint.

In the recumbent position, for instance, the limb is generally found flexed upon the pelvis. Now this is not the position usually adopted by patients in the early stage of morbus coxæ; and at the period when it does generally occur, the articulating surfaces are engaged to an extent to render the least motion of the head of the femur in the accetabulum a source of severe pain. In the disease we are now considering, if you take the limb so gently in your hand as not to call into action the muscles which connect it with the trunk,

and then press it firmly into the acetabulum, no complaint is made. You can, with the same precautions, cause it to perform all the motions of flexion and extension, adduction and abduction, without the slightest uneasiness to the patient. These are movements which, in true morbus coxæ, would be agonizing in that stage when the limb is found to be habitually in the flexed position.

You will, no doubt, meet with cases of the scrofulous disease of the hip-joint, in which these passive movements can, in the early stages, be performed without any remarkable expression of pain; and therefore this test, taken singly, loses much of its value. Taken, however, in combination with that which I am next to mention, it will assist materially in the inquiry. If, while you cause the limb to perform those passive motions of adduction, abduction, flexion, and extension, you fix your eye upon the anterior superior spinous process of the ilium, you will perceive that this bony prominence remains at rest while the femur moves, and that the head of the latter plays freely in the acetabulum. Now observe what takes place in the genuine hip case, when this manipulation is performed by the surgeon. Every movement of the femur is accompanied by a corresponding change of position of the anterior spinous process of the ilium; the pelvis moves with the femur; and both together now constitute an angular lever, the fulcrum of which is at the acetabulum of the sound side, and the motions of which are performed on the head of the sound thigh-bone. This symptom of inflamed hip-joint has not, I believe, been before described; and I have looked carefully into authors with this view since I first observed it. I have examined a vast number of cases of hip disease, and have not yet met with an exception to the rule of its occurrence. This movement of the pelvis with every motion of the femur, in morbus coxæ, will explain certain cases where little or no pain is complained of by the patient, the motion in many of those instances being only apparent as regards the joint, and the deception being occasioned in the manner I describe.

You can render this fixity of the hip in morbus coxæ more manifest by the following manœuvre:—Place the patient on his back; take one of his ankles in each of your hands, and, while you separate the limbs as far as they can go, observe accurately the two fixed points of the pelvis—the spinous processes of the ilium. You will observe the femur of the healthy side plays freely in its socket; and further, the limb is abducted without any change in the direction of the foot. On the other hand, the diseased limb carries with it the pelvis; and the latter not only follows it, but is rotated, together with the spine, towards the opposite thigh, in such a manner that the foot is no longer directed forwards, but is inclined towards the middle line of the body. It is difficult to describe this contortion; but as you have witnessed it in both the hip cases now in the hospital, you require no further aid to understand it. In hip-joint disease, in fine, motion of every kind, active and passive, is a source of pain; while in osteitis of the upper end of the femur, although the patient is in the early stage incapable of moving the limb, no pain is experienced when this motion is accomplished by another.

The *rationale* of these opposite conditions is, I apprehend, to be sought for in the muscles of the parts. In the one case a tonic contraction of the muscles connecting the pelvis and femur is set up, as it were, to maintain the repose of the joint, and prevent the irritation inseparable from its disturbance. In the other case every movement which is painful is caused by the traction of the inflamed periosteum and tendinous attachments adjoining it, when the muscles are called into action. A state of the muscles therefore exists totally different from the former, and is more allied to their powerless condition in acute muscular rheumatism. Passive motion is, in such cases, freely permitted, for the same reason which prevents every active effort being attempted, namely, that muscular action is a source of pain.

If you now seek for diagnostic marks in the erect posture, you will observe that the limb, which is emaciated at the nates, calf of the leg, and lower part of the thigh, presents at its upper third a remarkable expansion; a sudden enlargement occurs here, which gives this portion of the limb a conical figure, the base being placed towards the hip-joint. This swelling is firm to the touch, and is evidently deep-seated; it is, in fact, enlargement and thickening of the bone and its coverings.

The observations already made with respect to the movement of the thigh-bone independent of the pelvis, in the recumbent position, are equally applicable to the erect posture. In the hip case, on the contrary, if you try to extend the thigh on the pelvis, while the patient stands erect, you will observe the pelvis moving backwards every time, and the lumbar spine more curved at the same instant, to accommodate itself to the other parts.

You will by these means have now acquired positive and negative evidence on

which to rest your opinion of the nature of the case. You will have, on the one hand, the existence of a visible and palpable swelling of the upper third of the femur, which marks the existence of actual disease of that bone; and, on the other, you will have ascertained that passive motion can be performed without pain, and independent of the pelvis, to a degree inconsistent with the history of hip-joint disease. Much patience will, however, be required in examining the parts before an opinion is pronounced. Sir B. Brodie, whose tact in the discovery of obscure disease is acknowledged, and whose experience in this class of diseases is perhaps unequalled, expresses himself forcibly on the insidiousness of complaints about the hip-joint. In the present inquiry it is obvious that the evidence by which we are enabled to distinguish disease of a bone in the vicinity of other joints is in a great measure absent here. If the lower end of the femur be enlarged, and pain in the knee be complained of, we are led to the real nature of the complaint by the obvious disproportion between the femur and tibia; but when the upper end of the bone is engaged, all comparison is prevented—in the first place, by its being articulated with a flat bone; and secondly, by the depth at which it lies, as well as the thickness and increasing size of its coverings at this part.

The first stage of the disease, to which the foregoing observations apply, will generally last some weeks, differing in this respect according to the acuteness of the attack.

The second stage is marked by the occurrence of a more irregular fever, preceded by slight rigors, and ending, though not constantly, in perspiration. The countenance acquires an anxious and haggard expression, such as you observe to occur in hectic fever, and the hair has the moist and stringy appearance of that state. The skin is generally hot, sometimes dry, sometimes perspiring; the pulse ranging from 112 to 120; the urine occasionally depositing the lithates and purpurates. The tongue may be coated, yet florid at its edge; but I have too often impressed upon you, that the states of this organ will necessarily depend on the condition of internal parts, especially of the digestive tube, to render it necessary to repeat, on this occasion, that, taken as a symptom, no connexion can be established between its various appearances and the existence of any so-called surgical disease.

The local phenomena will, at this period, have undergone some modification. The swelling has increased, and some portion of the integuments have become more prominent, or have acquired a blush of inflammation. Here you may generally expect the formation of matter, although there is neither swelling nor fluctuation in a degree analogous to what occurs in suppuration depending on the soft parts alone. The patient remarks, that when just on the point of falling asleep, he is disturbed by twitching and starting of the affected limb, and his rest is sometimes altogether broken in this manner.

At length the matter is evacuated, either spontaneously or by the assistance of the surgeon, and a remarkable calm ensues. The pain in the hip, groin, and knee, is mitigated; the rest is restored; the fever abates, and the perspirations cease. The appetite revives under this favourable respite from suffering, and the countenance begins to improve, although the pulse may retain its frequency. The inflammation having by this time in a great measure exhausted itself in the organic changes effected in the bone, as well as in the suppuration in the adjacent parts, the morbid sensibility of the attachments of the muscles abates, and the patient begins gradually to be capable of moving the limb to a certain extent without pain.

Although the comparative freedom from pain, and capability of some degree of active motion, characterize this second stage of the complaint, the position of the limb, when at rest, is nearly the same as at first. It is flexed on the pelvis, and the latter is found to be still awry, the ribs and ilium being closer on this side than on the other. The muscles appear to be more at ease in this posture; but, unlike what occurs in the inflammatory stage, they are now capable of moving the limb to a nearly straight position by their own unassisted powers. During the progress to the third stage, occasional accessions of fever and pain are to be expected. The pain is to be referred to the same points—namely, the hip, groin, front of the knee, or directly through the joint. I have heard the same person complain at one time of the outside of knee and upper part of the leg, and at another refer it to to the situation of the inner condyle. These exacerbations are sometimes the forerunners of fresh formations of matter; and, when this is the case, are generally relieved by its exit. They may, however, pass off without this result, especially if a few leeches have been applied. When new abscesses occur, the place of pointing is most frequently on the outside of the limb, in the neighbourhood of the great trochanter; although I have frequently seen them at the back of the thigh, below the nates.

The fistulæ are, for the most part, so indirect and circuitous, that you cannot readily trace them to their termination. The bulk of the swelling is at this time found to be increased; the trochanter being also enlarged in all directions, will appear to ascend higher on the ilium than in the natural state. The remainder of the limb being more emaciated increases the appearance of disproportion between the upper and middle portions of the bone. The integuments of the whole limb are sometimes thickly covered by a long fine hair, such as is occasionally seen in diseases of a marasmal character. The sound limb may exhibit a similar growth, but in much slighter degree.

If you try the effects of passive motion at this period, you will find that although flexion of the thigh on the pelvis is as extensive as before, you cannot now extend the limb in an equal degree. The flexed position maintained by the patient, in order to relax the muscles inserted into parts engaged in the morbid action, has now become habitual; partly owing to a contracted or shortened state of those muscles, in consequence of their long-continued unnatural position, and partly to a mechanical obstacle to extension presented by the increased growth of the femur coming in contact with the brim of the acetabulum. Abduction is nearly as free as in the early stage, but adduction appears to meet also with a firm resistance. The sudden check experienced is easily interpreted by the surgeon, who remembers the hypertrophy of the bone at this part. Some pain is occasionally experienced at the moment when the solid obstacle to adduction is perceived, but it is slight, and referred by the patient to the part struck alone, and not to those distant parts which suffer by sympathy or nervous communication. I must observe, that I have seen a case in which the period occupied in other instances by these changes has passed over without any formation of matter or opening in the integuments.

The third stage of this affection may be said to comprise the period in which the curative process is in progress; the nature of the changes included in this effort of nature, depending, of course, on the degree of injury inflicted by the violence of the primary disease. If many portions of the bone have lost their vitality, their separation from the healthy parts is to be accomplished; and other organic alterations, of a kind not so easily repaired, must have undergone a favourable change before the patient is restored to health. It is in this stage that the powers of the constitution are put to the severest test, and that the disposition to tubercular disease is most likely to be developed.

During this stage the fistulous openings continue to discharge pus. The qualities of this fluid will be found to differ materially at different times, and even at the same time from different orifices. I have seen it remain ill-coloured and fœtid for a considerable time, from one or two of these openings, while a more healthy matter was secreted from the remainder. When this has occurred, without being followed by any exfoliation, and has, after a long interval, gradually changed into a more healthy discharge, I have been led to suspect that caries of that portion of the bone corresponding to this peculiar secretion had existed; but as we are not in possession of evidence by which we can determine the question of absorption of dead bone, I cannot assert that the unfavourable condition of the fistula may not have depended on the presence of a loose piece of bone which had gradually disappeared, and not on ulceration properly so called.

The alteration in the discharge alluded to, is sometimes accompanied by increase of swelling and tenderness about the orifice, as well as by some degree of symptomatic fever. It has occasionally happened that these symptoms have been succeeded by the discharge of a portion of sequestrum, generally small in size, and more porous than those which you see eliminated from necrosis in the middle of a long bone. You will, on some occasions, observe this exfoliation to be announced, not by any alteration in the quality of the discharge, but by its total cessation for a few days; and I think I have remarked that the pain and local irritation is then more severe than in the former case.

You may meet with a case where, after the formation of an abscess, the opening will remain solitary for several months; and if the probe be used to test the condition of the bone, you may be foiled by the length and curve of the fistulous canal, and probably obtain no satisfactory information as to its actual state. The swelling may remain undiminished, the only change being that it is less tender on pressure, and that the patient has acquired more power over the limb. The constitutional symptoms, in such a case, may be as stationary as the local complaint. There may be no sweats, nor accessions of fever; but although the appetite and rest are nearly natural, there is not much progressive improvement in the appearance of the invalid. As there may not, during this time, have been any exfoliation, there is no certainty that such a case is one of necrosis; and as I have not yet had the means of ascertaining the anatomical characters of a case presenting exactly the symptoms I have described, I merely men-

tion the facts, and reserve their explanation to another occasion, when an opportunity shall have occurred of tracing the history to its termination.

The cases which I have seen sink in this stage have not done so under the influence of this disease alone. They have died of pulmonary disease. Those which have evinced sufficient vital powers to sustain, and, it may be, to subdue, the force and tediousness of the complaint, are yet under observation. Both these classes include cases in which treatment has been either ineffectual or untried. Another class, in which the attack has yielded to early and active remedies, remains to be spoken of when we come to discuss the treatment of the disease.

This, gentlemen, is nearly the history of those cases which commence in the acute form, and bear, in their phenomena, the closest analogy to inflammation, with necrosis of the long bones, modified, of course, by its occurrence in a part more highly organized, and resisting, therefore, to a certain extent, the destructive power of severe inflammatory action, which, in more compact osseous tissues, occasions the complete and extensive death of the parts.

The cases to which I have hitherto drawn your attention, are, I believe, instances of genuine osteitis, by which I apprehend must be understood inflammation of the cellular tissue by which the bone is pervaded throughout. In those cases, not only the periosteum, but the cellular tissue connecting that membrane with the bone, and that which conveys the vascular network to the interior, become the medium for conducting this formidable disease to the spongy tissue. There are, however, instances to be met with, in which the periosteal covering of the bone is alone affected; but as the latter form of disease does not, as far as I have observed, suggest a different mode of treatment, I do not, on this occasion, deem it necessary to detain you by a separate consideration of the periostitis of the upper third of the femur.

I may, however, remark, in passing, that the swelling is never so great when the periosteum alone is engaged, although the symptoms which simulate so closely disease of the hip-joint, depending, as they do, on the condition of parts connected with the surface of the bone, will generally be present in an equal degree.

Morbid Anatomy.

The anatomical characters of this disease, as far as I have hitherto had an opportunity of investigating the subject, are —1st, simple hyperostosis, or hypertrophy of the bone; and 2d, hyperostosis with death and exfoliation of certain portions of the osseous tissue. In one case which I was permitted to examine, the state of parts was nearly as follows:—The muscles were pale and wasted; the periosteum and cellular tissue constituted one dense mass, of a consistence approaching the fibrous. The bone itself presented a remarkable increase of bulk, with superficial osseous vegetations or exostoses—some rounded, and others like sharp spiculæ, between which were observed irregular depressions and foramina, into which processes of condensed cellular tissue and vessels had penetrated. In this case the osteitis had apparently occasioned an expansion and increased deposit of the osseous tissue generally, but without any trace of necrosis. There had never been abscess or fistulous opening in this instance.

In another case which I had occasion to examine, and from which several portions of bone had escaped during life, the autopsy disclosed the existence of a new shell, occupying about one-third of the circumference of the upper third of the bone, with large foraminæ leading to a cavity, in which no doubt the small sequestra had resided. The remainder of the circumference and the general aspect of the bone evinced the same degree of hyperostosis which I had witnessed in the former case. The drawings I now present to you exhibit this appearance very faithfully. It was curious to observe, in both instances, the exact limitation of the disease by the line of boundary corresponding to the attachment of the capsular ligament of the hip-joint, while the osseous vegetations sprang freely from the bone close to this line, and projected in a manner sufficient to account for the mechanical check experienced in communicating to the parts the motions especially of extension and adduction.

In the Museum Anatomicum of Sandyfort you will find a splendid engraving of hyperostosis of the upper end of the femur. The history of this case is not given, but its characters coincide in many respects, though not in all, with those of the second preparation to which I have called your attention. Mr. Cæsar Hawkins, in his valuable lectures on diseases of the bones, states that he has seen more than one case of obscure pain about the hip-joint, with impediment to its motions and suffering of the system, last for many months before the nature of the case was determinined, by a fungous tumor being developed. In fungoid disease of bones, Sir A. Cooper says, there is no pain in the beginning. The disease, however, which I am describing is remarkable for setting in with pain and fever, and the bulk of the swelling is rapidly formed.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, May 21st, 1839.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week.	Same time last year.
	£ s. d.	£ s. d.		s. d.			
Aloes, Barbadoes, D.P. c	12 0 0	to 40 0 0	B P. lb	0 2			
Hepatic (dry) BD..... c	5 0 0	14 0 0	F. lb	0 8		44,676	52,361
Cape, BD. c	2 15 0	——					
Anise, Oil of, German, D.P.....lb	0 9 6	0 9 6	F. lb	1 4		——	——
E. I. .....lb	0 5 6	——	E. I.	1 4		905	383
Asafœtida, B.D. c	2 10 0	5 0 0	c	6 0		15	35
Balsam, Canada, D.P. .....lb	0 1 3	0 1 4	lb	0 1		2,480	2,745
Copaiba, BD.....lb	0 5 6	——	c	4 0		233	151
Peru, BD. .....lb	0 4 3	——	lb	1 0		508	1,311
Benzoin (best) BD..... c	25 0 0	50 0 0	c	4 0		57	47
Camphor, unrefined, BD..... c	10 10 0	——	c	1 0		194	283
Cantharides, D.P. .....lb	0 5 0	0 5 3	lb	1 0		7,404	7,709
Caraway, Oil of, D.P. .....lb	0 8 0	0 8 6	lb	4 0		190	——
Cascarilla or Eleutheria Bark, D.F.C.	3 10 0	——	lb	0 1		48	4,031
Cassia, Oil of, BD.....lb	0 7 6	——	lb	1 4		1,142	1,764
Castor Oil, East India, BD .....lb	0 0 6	0 0 11	c	1 3		2,804	1,208
West I. (bottle) D.P. 1½lb	——	——		——			
Castoreum, American .....lb	0 17 0	0 18 0	lb	0 6		467	460
D.P. Hudson's Bay .....lb	0 18 0	1 0 0					
Russian.....lb	none						
Catechu, BD. Pale c	1 6 0	——	c	1 0		14,975	7,612
Dark	1 15 0	——					
Cinchona Bark, Pale (Crown)....lb	0 2 0	0 3 6	lb	0 1		28,107	53,986
BD. Red .....lb	0 2 0	0 4 0					
Yellow .....lb	0 3 6	0 3 8					
Colocynth, Turkey .....lb	0 2 6	0 4 0	lb	0 2		4,336	3,998
D.P. Mogadore .....lb	0 1 0	——					
Calumba Root, BD. c	0 12 0	1 15 0	lb	0 2		7,262	16,246
Cubebs, BD. c	2 14 0	——	lb	0 6		23,593	11,942
Gamboge, BD. c	5 0 0	15 0 0	c	4 0		28	51
Gentian, D.P. c	1 6 0	1 8 0	c	4 0		298	243
Guaiacum, D.P.....lb	0 1 0	0 1 8	c	6 2		2	13
Gum Arabic, Turkey, fine, D.P... c	11 0 0	12 0 0					
Do. seconds, D.P. .. c	8 0 0	——	c	6 0		4,021	2,614
Barbary, brown, BD. c	2 2 0	——					
Do. white, D.P..... c	4 10 0	——					
E. I. fine yellow, BD. c	2 14 0	3 0 0	c	6 0		3,085	1,730
Do. dark brown, B.D. c	1 15 0	2 5 0					
—— Senegal garblings, D.P. c	3 6 0	——	c	6 0		9,143	4,130
—— Tragacanth, D.P. c	8 0 0	12 0 0	c	6 0		27	193
Iceland Moss (Lichen), D.P. ....lb	0 0 2½	0 0 3	lb	0 1		5,621	4,225
Ipecacuanha Root, B.D. .....lb	0 1 9	0 2 0	lb	1 0		3,437	8,695
Jalap, BD. .....lb	0 2 8	0 2 9	lb	0 6		14,448	14,693
Manna, flaky, BD. .....lb	0 3 6	0 4 3	lb	0 3		5,257	3,596
Sicilian, BD. .....lb	0 1 7	——					
Musk, China, BD. .....oz	1 0 0	1 8 0	oz	6 0		926	651
Myrrh, East India, BD. c	5 0 0	14 0 0	c	6 0		110	64
Turkey, BD..... c	2 0 0	11 10 0					
Nux Vomica, BD.....lb	0 8 0	0 9 0	lb	2 6		118	556
Opium, Turkey, BD. .....lb	0 15 0	——	lb	1 0		15,212	10,976
Peppermint, Oil of, F. BD.....lb	0 18 0	——	lb	4 0		786	324
Quicksilver, BD. .....lb	0 3 10	——	lb	0 1		87,817	108,671
Rhubarb, East India, BD.....lb	0 2 6	0 4 0	lb	1 0		15,122	13,506
Dutch, trimmed, D.P. lb	0 3 6	0 5 0					
Russian, BD. .....lb	0 8 3	——	F. lb	1 0		1,421	2,475
Saffron, French, BD. .....lb	0 18 0	——					
Spanish .....lb	0 8 6	0 19 0	lb	1 0		1,562	1,903
Sarsaparilla, Honduras, BD.....lb	0 1 0	0 1 9	lb	0 6		50,682	39,097
Lisbon, BD. .....lb	0 2 0	——					
Scammony, Smyrna, D.P.....lb	——	——	lb	2 6		4,307	3,612
Aleppo .....lb	0 18 0	1 0 0					
Senna, East India, BD. .....lb	0 0 3	0 0 4	E.I. lb	0 6		52,075	29,379
Alexandria, D.P.....lb	0 1 9	0 1 10					
Smyrna, D.P. .....lb	0 1 0	0 1 3	Other sorts	0 6		38,233	32,309
Tripoli, D.P. .....lb	0 1 0	0 1 3					

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

ROYAL COLLEGE OF SURGEONS IN LONDON.

The Council of the College having established two studentships in Human and Comparative Anatomy, to be held by each student for the term of three years, at a salary of £100 per annum; candidates for such appointments to be members of the College, under twenty-six years of age;—and the Council having determined that one of such appointments shall take place in June next, gentlemen desirous of becoming candidates are requested to send in their names to the Secretary, at the College, on or before the 24th of June next, when they will be furnished with the detail of the conditions of the appointment.

By order,
Edmund Belfour, Sec.

COLLEGE OF SURGEONS.

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS.

April 1839.

W. R. Warwick, Newark-upon-Trent.—P. W. Leather, Prescot, Lancashire. — O. Mauger, Guernsey.—G. G. Holmes.—T. Wilmot, Lewisham.—C. Young, Salisbury. — J. Mayer, Newcastle-under-Line. — J. Turner, Manchester. — J. A. Moore, Bolton.—C. Bull, Bury, Suffolk.—R. M. Bernard, Bristol.—A. H. Cheek, Bengal.—J. B. Hilton, Swinton. — E. Ray, Dulwich. — G. N. Woolley, Brompton, Middlesex.—Julius Wolff, M. D. of Hanover, London.—J. Harrhy, Newport, Monmouthshire.—S. V. P. Michell, Redruth. — W. Cooper, Norwich. — C. Leech, Newcastle-upon-Tyne. — W. Fox, Cavan. — T. E. Amyot, James Street, Westminster.—E. Dorrian, Downpatrick. — E. Paley, Peterborough.—W. Allard, Tewkesbury.—N. Fowler, Yorkshire.—J. B. Johnson, Stowmarket.—C. Archer, London.—A. W. Owen, London.—A. G. C. Hompay, Bristol. — J. Hatton, Manchester. — M. Graves, R. N.—W. B. Atkinson, Margate.—J. Hunter, Islington.—T. W. Garlike, Wickwar.—W. Atkins, Deptford.—H. C. Deshon, Bath.—E. E. Phillips, Chilton Polden. — A. Wilkinson, Ulverstone. — David Evans, Llanidloes.—S. M'Vittie Lloyd, A.—T. S. Hatfull, Deptford.—G. Waylen, Devizes.—W. E. Thompson, Worcester.—J. H. Eccles, Plymouth.—R. O. Millett, Peorpole Hayle.—W. U. Buée, Henrietta Street, Berwick Square.—E. Morris, Sutton-in-Ashfield, Notts.—T. Balman, Southmolton.—J. W. Hodson, Staines, Middlesex.—W. M. Beddoes, Cheney-Longville, Salop. — E. Barker, Aylesbury. — Thomas Williams, Swansea. — George B. Thorpe, Dronfield. — T. B. Garstang, Settle, Yorkshire. — T. Hunt, London. — T. H. O'Flaharty, Dublin. — T. S. Cooper, Canterbury. — J. N. Barlow, Whittle, Essex. — P. Porter, Plymouth. — W. Parsons, Brighton.—Henry Waterman, Tenterden.—Henry L. Nuzer, Walworth. — D. Everett, London.—Wm. Wilson, Gottingen. — T. O. Duke, Chichester. — G. M. Nealds, Ripley. — J. C. Cust, Barnard Castle.—C. R. O. Bloxham, Bombay.—G. S. Mann, Yarmouth. — T. Welch, Kidderminster.—C. J. R. Cook, Bombay.—E. M. Dolman, Melbourne.—J. Whitmore, London.—J. H. Butler, Holborn.—C. Beckett, Hull.—J. Wimpenney, Holmfirth.—R. C. Kersey, Framlingham.—G. S. Archer, London. — W. R. Gingell, Calcutta.—S. Molyneaux, Wigan.—G. Gill, Liverpool.—J. Goodridge, Barbadoes.—R. W. Hodgson, Northallerton. — J. E. Carte, Limerick. — T. S. Beck.—J. Vinall, Chatham.—P. J. Le Vescomte.—T. Holyoake, Salop.—R. R. Allen, Heanor, Derbyshire.—C. H. Helsden, Norfolk.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 16, 1839.

Edward Rogers, Bromyard, Herefordshire.—Francis Wardroper, Arundel, Sussex.—Charles Hathaway.—Charles Timins, Gloucester.—Jacob Roberts, Aberystwith.—James Benning, Barnard Castle, Durham.—Charles Sawer, Ipswich, Suffolk.—Frederick Stevenson, Loughborough, Leicestershire. — Algernon Sidney Vandenbergh, London.—Robert Benjamin Howlett, London.—Henry Garle, Hamilton Terrace, St. John's Wood.—Alexander John Shepherd, Usk, Monmouthshire.—Charles Wilson, Rotherhithe, Surrey.—Charles Frederick Elcum. — Richard Bligh, Southampton.—John Newton, Margate.

WEEKLY ACCOUNT of BURIALS.

From Bills of Mortality, *May* 21, 1839.

Age and Debility	22	Inflammation	8
Apoplexy	3	Bowels & Stomach	2
Asthma	1	Brain	1
Consumption	19	Insanity	1
Convulsions	11	Jaundice	1
Croup	2	Liver, diseased	1
Dentition	5	Measles	6
Dropsy	4	Mortification	1
Dropsy in the Brain	1	Paralysis	2
Erysipelas	2	Scrofula	1
Fever	8	Small-pox	3
Fever, Scarlet	7	Thrush	1
Fever, Typhus	5	Unknown Causes	40
Heart, diseased	1		
Hooping Cough	3	Casualties	1

Decrease of Burials, as compared with the preceding week . . . 13

METEOROLOGICAL JOURNAL.

May.	Thermometer.		Barometer.	
Thursday . 16	from 28·5 to	52	29·43 to	29·70
Friday . . 17	30	60	29·89	30·02
Saturday . 18	33	63	30·02	30·00
Sunday . . 19	51	63	29·97	30·08
Monday . . 20	54	75	30·13	30·18
Tuesday . . 21	45	65	30·09	30·00
Wednesday 22	42	53	30·04	29·91

Winds, S.W. and N.W.

Except the 17th and following day, generally cloudy; rain fell on the 16th, 19th, 21st, and 22d.

Rain fallen, ·0375 of an inch.

Charles Henry Adams.

NOTICE.

We shall be glad to hear farther from Dr. H.

* As the French *gros* contains 72 grains, it would be more exact to translate this quantity by gr. cxliv.

† In the original it is Extrait *de Thridace*; but as *thridace* is itself an extract of lettuce, this is probably an error.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JUNE 1, 1839.

LECTURES

ON THE

VENEREAL DISEASE,

Delivered at the Aldersgate School of Medicine, March 1839,

By F. C. Skey, F.R.S. &c.

Lecture IV.

Treatment of Primary Phagedænic Disease —Mercurial Treatment objectionable—Mercury incompetent to arrest Ulcerative Action —Treatment by Escharotics in early stage— Treatment of Secondary Phagedænic Disease—Iritis—Sclero-iritis.

ON THE TREATMENT OF PRIMARY PHAGEDÆNIC DISEASE.

The principle of treatment to be adopted in cases of phagedænic disease will materially depend on the stage in which they are first seen. In hospital practice we rarely have the opportunity of treating them during the first; and in private, owing to many circumstances, they are somewhat less intractable. The treatment that is applicable, therefore, in the latter, we can seldom employ in the former, where the advance of the disease has been considerable before the application for hospital aid. I have, in a previous lecture, already expressed my doubts of the possible existence of a true primary phagedænic venereal sore. My belief is, that it becomes phagedænic in virtue of certain constitutional peculiarities. Neither the phagedænic action, nor the disposition, appear to extend far beyond the ulcer in its early stages; and both may be destroyed by escharotics carefully applied to the whole surface. But this treatment is applicable to the first stage only—to the pustule, if it originate in a pustule—and to the sore after the existence of a few days only; and it is equally applicable to each form of primary phagedæna, but its beneficial influence is most manifest in the severer form of the disease, in which the action approaches to sloughing. The escharotic I prefer is nitric acid—undiluted for the most rapid form, diluted by the addition of an equal quantity of water, for the two first. This may be applied on a pencil of lint twisted round a probe, and followed by spermaceti dressing.

Mercury in any form or quantity, except in single purgative doses, is for the most part highly objectionable. In this stage its influence, though occasionally good, is more generally deleterious; and those cases of phagedænic disease that recover under its administration, recover in spite, rather than in virtue of it. So objectionable does the treatment by mercury appear, that one can hardly persuade oneself how it could ever have been resorted to in this form of disease, had not the ancient custom of treating all diseases supposed venereal, by its means, and deference to antiquity, given their false sanction to its continuance.

The peculiarity of this affection is the propensity to ulceration. Whoever heard of having recourse to mercury in the treatment of any other form of ulceration? We may attack a poison by mercury—we may excite action of the absorbents, or we think we may, by its agency; but I cannot conceive what advantage can be derived from mercury, in a disease which consists of active ulceration. Is it not probable that the process of ulceration, like that of its relative, sloughing, indicates exhaustion in the vessels?—and is the action of mercury stimulating? Does mercury stimulate the vessels in inflammation? Do we resort to mercury in ulcers of the intestines following fever; or in ulcerations of the cartilages of the joints?—or even do we hope to arrest ulcerations of the cornea by its administration. But we may be

told that these are the results of simple inflammation: and what is meant by the specific inflammation of phagedæna? It is a disease that mercury alone can engender. The best authorities that have written, all agree that it may characterize any common venereal sore at any period of its existence. Sir R. Carmichael acknowledges that he never saw it within a fortnight to three weeks from its first appearance. If it be a specific poison, it is one that may be generated by the possessor, as well as acquired from another, whether possessing it or not, and owing its peculiar characters to the constitution of the person possessing it. No one doubts that its ravages are most severe and uncontrollable in weakly and cachectic habits. Why, then, should it be treated with mercury? Neither theoretically nor practically do I observe, with certain limitations, any thing but evil from its administration in phagedænic disease.

If, after the first application of the nitric or diluted nitric acids, no advantage be gained—if the sore do not clean and manifest a disposition to granulate, the application may be repeated. Should it fail a second time, the treatment by escharotics should be laid aside, and the sore, unless of the more destructive kind, be left uncontrolled for two or three days, when it will assume the aspect of the disease which is generally first presented to us for treatment. That which we should now adopt will depend on the pulse, as an indication of the general powers: if full and hard, we may take some blood from the arm, and follow up the treatment by antimonials, which I prefer in the form of the solution of tartrate of antimony, 2 grs. to the quart of lemonade; but we shall rarely be warranted in having recourse to the lancet, the character of the pulse being generally full, but soft, though accelerated.

If the sore exhibit the white surface, it will prove slow but resolute in its progress; if a darker surface, it will be more rapid and destructive. In the former case, you may leave it untreated locally for a few days, enjoining simple ablution with warm water, and simple dressing of cerate spread on linen, if on the glans or inner surface of the prepuce, the glans being more generally the seat of this form of sore. We then commence a series of experiments on the sore, which should be seen daily. These consist in the endeavour to ascertain what form of local application is most agreeable to the disease; and of such remedies we may try black-wash or yellow, weak dilutions of nitric acid, Peruvian balsam, oxide of zinc ointment, citron ointment, solutions of nitrate of silver, and such stimuli. A low diet, though occasionally desirable, is not commonly so, nor is much to be gained by internal stimuli, unless the patient has been accustomed to them. These means will generally succeed in wearing out the disease in the course of from one to two months, unless mercury has been employed, for then the period required will be longer, even to the extent of four or five months.

The treatment of secondary phagedænic disease also should be modified by the state of the pulse, and by the activity and extent of its progress. If eruption and sore throat appear contemporaneously, or nearly so—if the eruption be extensive and early in its appearance—either during the ulcerating or cicatrizing stage of the primary ulcer, we may expect the case to present itself in a formidable character. If the eruptions appearing about the face and neck are few in number, and extend at a longer interval of time—if the sore throat be partial, and do not advance to the ulceration of the surface, we may reasonably expect that the disease will be controlled by simple means. A certain amount of fever will always attend it, and for which the antimonial solution above recommended may be administered. If the febrile symptoms are considerable, blood may be taken by venesection, in a quantity proportionate to its effect: I conceive, however, about 10 oz. to be the maximum. The advantages of moderate depletion have been dwelt on by Sir R. Carmichael, and there can be no doubt that they are often considerable. But you must always keep in view the asthenic nature of the disease you are treating, and be careful that you do not deprive your patient of resources the possession of which are indispensable to his restoration. You rather treat the symptom, than the disease, and this object may be generally effected by abstracting from 8 to 10 oz. of blood, and that only when the fever is considerable. At the expiration of three or four days devoted to the treatment by antimony (not, however, to be administered to nauseate the stomach), the bichloride of mercury may be given in compound tincture of bark, to which the compound tincture of camphor may be added, should the mercury affect the bowels. I usually give one-twelfth of a grain thrice a day, with a drachm of the bark to each dose. After the slightly depressing influence of the antimony, the effects of this medicine are often most excellent, especially when coupled with improved diet and exercise in the open air, in mild weather. Nocturnal pains in the limbs will be generally mitigated by either the extract of cicuta or compound ipecacuanha powder in doses from 5 to 8 or 10 grains, the half of which may be repeated in the day time.

A gargle of distilled vinegar, diluted with two, three, or four parts its quantity of water, may be used frequently in the course of the day. I order it every two hours, and to be employed as hot as the patient can bear it. Some prefer muriatic or nitric acid gargles, but it is really of little moment.

The general disease will feel the effects of these remedies most unequivocally. They may often be persisted in till the patient is convalescent; more frequently, however, without apparent cause, the disease again advances in full force. The general aspect becomes more asthenic, the pulse is rapid, very compressible and weak, although it may be more or less full; the pharynx ulcerates; the eruptions papular, pustular, and tubercular, return with renewed energy, and extend over the whole surface of the body, commencing more generally on the back and shoulders; the thick crusts of rupia, prominent and cachectic, form more frequently on the face and arms, some of which attaining a small size only, separate and disclose wide-spreading ulcers underneath, and of these we have often as many as from ten to twenty of various sizes in various parts of the body. Some may be healing, others already cicatrized, while the majority extend, secreting a whitish somewhat tenacious matter. I believe it is perfectly useless to treat these ulcers during their ulcerative stage, and that it is far preferable to cover them with bread and water poultice or simple cerate dressing, until that action has exhausted itself spontaneously, or been held in check by the constitutional remedies. In this stage I should suspend even these for two days, excepting the Dover's powder or cicuta, and then commence with the hydriodate of potash in the bark, or combined with large doses of sarsaparilla as before: four or five grains may be ordered to a drachm of the tincture, three times in the day, with meat diet. If with sarsaparilla, the dose of the latter should be large. I have no faith in moderate doses of this highly-prized drug; and, except that it often improves the appetite and forms a moderately good antidote to mercurial action, I cannot say that I deem it by any means a valuable remedy. In this state, I have found great benefit to be detived from large doses of Dover's powder, to the extent of ten or fifteen grains, night and morning, and I have occasionally, during the granulating stage, employed much larger doses with advantage. The state of the eruption I have described is not usually accompanied by the severe form of ulceration of the pharynx. When that symptom exists, it is, I think, more usually found alone, and it will prove a sufficiently intractable enemy, to require all the resources of the surgeon. The whole surface should be lightly touched with the nitric acid, diluted, according to circumstances, with two, three, or four times the quantity of water. It may be applied by means of lint twisted on a long probe or director. This may be changed for nitrate of silver, ten or twelve grains to the ounce of water. Sometimes the ulceration will be arrested by fumigations of the red sulphuret of mercury, employed each morning. But so capricious and intractable is this form of disease, and so uncertain our remedies, that after adopting systematically every agent that anxiety and ingenuity can devise, it may extend to the destruction of our patient, who is at length worn out by long draughts both on his circulation and nervous system; or on the other hand, the throat or the sores may almost suddenly assume the aspect of health, on the return to some remedy which had been previously laid aside as useless.

The examples of phagedænic disease are sufficiently numerous in the metropolitan hospitals; and for the purpose of showing you the peculiar intractability of it in its more confirmed stages, its fitfulness, and its deeply-rooted constitutional character, I will direct your attention to a single case; not, observe, on the ground of its peculiarity, but of that of its usual conformity with the train of symptoms that daily characterize it.

Thomas Morley, aged 24, was admitted into St. Bartholomew's Hospital on the 12th of June, 1836, with a papular, pustular, and tubercular eruption on the back, chest, and arms. He had likewise sore throat, affecting the whole palate, and nocturnal pains in his shoulders and lower limbs. He stated that he had acquired a sore on the fossa of the glans, eight months previously, which appeared within a few days after intercourse, and which extended during a fortnight, for which he was subsequently twice salivated. During the first salivation, which was very severe in its influence on the system, the sore rather progressed, and bubo appeared in the groin. The second resort to mercury rather benefited the sore, which slowly healed. As to the character of the sore I could obtain no satisfactory information; there remained, however, an extensive cicatrix, but no hardness nor depression. The condition of the gums bore ample testimony to his statement regarding the mercurial treatment. I ordered him a mild aperient, and on the following day the

Tinct. Cinchonæ c. ℥iss.; Hydrarg. Oxymur. gr. j. Sumat ℥j. ter indies.

I put him on milk diet, but gave him strong broth daily. At the expiration of a fortnight, his improvement being very questionable, and his nocturnal pains somewhat on the increase, I gave him five grains of hydriodate of potash three times in each day, first without and then with the tincture of bark. Under this treatment he progressively improved during three weeks, in every respect except one, viz. the throat. An ulcer formed on each tonsil, of a foul and phagedænic character. These were fumigated with cinnabar each morning with some advantage, and cleansed with a gargle of tincture of myrrh in camphor mixture. About the middle of August, without any apparent cause, his symptoms made a sudden and rapid advance. Many of the pustules formed large and prominent crusts, while others degenerated into circular patches of ulceration. I now ordered him, for three days only, five grains of blue pill, night and morning, with two grains of extract of henbane to each dose. I then renewed the pill for three days longer, but his health was manifestly sinking considerably, and he was losing flesh rapidly; his throat at the same time improving. I then returned to the bark and hydriodate, and gave him porter daily. From this date to the middle of September his symptoms alternated between bad and worse. He then appeared to derive some advantage from extract of cicuta, with sarsaparilla, in large doses. An attack of diarrhœa compelled me once more to change the treatment; and at this date, the 20th of September, several ulcers on his legs and back, which had attained a considerable size, were yet extending; they were poulticed and dressed after a variety of forms—black wash, yellow wash, cinnabar fumigation, and Peruvian balsam, being employed in succession. Internally he took nitric and muriatic acids, sulphate of quinine, wine, hydriodate of potash, sarsaparilla, each with a brief but most transient benefit. On November 3d, his body was covered with sores, varying in size from that of a finger's nail to the palm of the hand. His strength was so far reduced that he could not move in his bed, and his appetite so impaired that he nauseated food of every description. I then requested Mr. Earle to see him, to whom I stated that I would consent to adopt any treatment except that by mercury. He said he could suggest no other, but recommended that, which I declined. Having exhausted the ordinary and extraordinary resources of medicine in such cases, I returned to the bark with nitric acid, and under its influence, strange to say, his appetite returned, the ulcers healed with rapidity, and on the 22d of the month he left the hospital for the country, quite convalescent.

In the more chronic forms of phagedænic disease the tunics of the eye are frequently involved. It is very rarely that the iris is affected singly, or even primarily, but it is generally more or less inflamed. The character of the inflammation is closely allied to the rheumatic, and it is not therefore surprising that the fibrous sclerotic is early involved. The inflammation of the sclerotica is not generally very severe, and the iris may be even less so.

But the latter membrane, on the ground of its important relations and greater susceptibility of injury from inflammation, is the object of the first interest. The intensity of the iritis will determine the treatment to be employed; and this, if not severe, will depend on the constitutional health of the person. If the intolerance of light be great, the pupils shew great tendency to permanent contraction. If the aqueous humour exhibit extreme turbidity—if the pain be chiefly confined to the ball of the eye, and subject to no remission, more especially at night—then the iris is seriously affected. It is then of no moment what may have been the cause, or what may be the probable injury to the health from the employment of mercury; for mercury is our chief and most important resource, and it must be administered in doses both frequent and large.

In phagedænic disease, however, this degree of inflammation is rare, the iris, as I have before observed, being secondarily affected, and that only in a minor degree. We generally find it unattended with considerable intolerance of light; the aqueous humour moderately turbid; the pupil but moderately contracted, and in a greater or less degree obedient to the influence of light on the retina; the pain not confined to the globe, but diffused around the brow; and, what is equally important, we find it distinctly subject to nocturnal exacerbations. In this state it may remain for many days, or even weeks, without the eye undergoing any considerable change. Here the sclerotica is primarily, the iris secondarily affected. The participation of the former may be determined by its pink colour seen through the conjunctiva. The redness may become more marked around the circumference of the cornea: it may even appear in the form of a tolerably distinct and broad circle, but diffused over a considerable extent of surface; but that is of no moment, so long as the mild train of symptoms exist which are attendant on subacute inflammation of the iris. This disease is often termed "syphilitic iritis," and the name alone appears to carry with it the warrant for the fullest exibition of mercury, which is deemed no less the antidote to syphilitic

poison than to iritis itself. But the forms of inflammation that attack the iris are various in degree as well as in character. It may be a simple tonic or an atonic inflammation. It may be syphilitic, or rheumatic, the latter being not unfrequently the product of mercurial action. I shall not stop to inquire whether the disease I have been describing appertains to the mercurial, or to the rheumatic, or to the phagedænic, or even whether it be or be not venereal; it is sufficient for my present purpose that I observe it to occur in a constitution impaired by long-continued disease and by severe treatment, and that the general condition of the person is eminently asthenic. This is no case, therefore, for sudden and depressing doses of mercury, or for copious depletion; the case is rather to be treated constitutionally, so long as we can detect no organic deposit on, or change in, the structure affected. Such form of inflammation will be more readily brought under control in some cases by colchicum and Dover's powder; in others, by bark and general tonics, than by the wasting effects of that mineral which, employed in the treatment of the acute and tonic forms of iritis, presents one of the most valuable resources of modern medicine, and whenever we find the less asthenic constitutional and the severer local symptoms predominate, we should not hesitate one moment in having recourse to it.

Among the important agents to be reserved for the last stage of phagedænic disease, let me not fail to do justice to mercury, which may then often be employed with the greatest advantage; and this treatment is not less (perhaps rather more) applicable, to that class of cases which owe their early virulence and intractability to excessive mercurial action. It should, however, be employed with caution. I do not mean to say that any danger attends its employment in moderation, but I am very certain that either good or great evil, will result from it. The constitution may be brought under its influence by five-grain doses of blue pill, and one-fourth of a grain of opium, night and morning; and if advantage be not derived when the gums are swollen and mercurial fœtor is produced, which will probably be effected in the course of five or six days, you ought not to push it on to positive salivation, and much less to ulceration of the gums and swelling of the tongue.

When the ulcerative stage has ceased, the sores may be treated with the oxide of zinc or the citron ointment. The Dover's powder will promote the growth of granulations, and the sores may be treated on the simple principles which guide us in the management of common ulcers. Granulations may be repressed by nitrate of silver wash, or dry lint; and in the last stage of these sores you will often derive important aid from the application of the balsam of Peru.

If these remedies, topical and general, fail, there remains one remedy to which medical men will have, I imagine, little objection to resort to, and it is, perhaps, the most valuable of any to a metropolitan surgeon—and that is, change to a purer air. It is in towns alone that phagedænic disease presents these formidable characters; and it is on the victims to confined and unwholesome air—to crowded rooms, bad diet, and depraved habits of life—that its fury is directed. Country air is the peculiar resource of the practitioner of large towns, and which, if resorted to early, may afford some feeble antidote, however meagre, to the train of consequences that are often otherwise uncontrollable.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 304.]

V.—INJURIES COMPLICATED BY LESION OF BLOOD-VESSELS.

Power in the arterial trunks of resisting or eluding violence.—Case of ball passing between the artery in the popliteal space and the femur, which it fractured.—Incomplete division of arterial trunk not necessarily fatal by primary hæmorrhage.—Case of lacerated carotid, secured twelfth day with success.—Case of hæmorrhage stopping spontaneously.—In operations for wounded arteries the tourniquet to be avoided.—Tables shewing in 1350 wounded the proportionate duration of treatment in different classes of injury, and the mortality.

In considering the nature and treatment of injuries in the immediate vicinity of arterial trunks, it must be borne in mind that the tough and elastic structure of the large arteries enables them to elude, and even to resist, a great deal of violence, without the vitality or continuity

of the parts being destroyed. Of this a good example was furnished by the case I related to you (see pp. 202-3), where a missile which had occasioned the most extensive laceration of soft parts, and the crumbling of portions of the bone beneath the artery, yet seemed only to have bruised the latter, and apparently not in a degree sufficient to destroy its vitality. Before concluding these remarks on injuries of the extremities, in reference to fracture and lesion of blood-vessels, I will relate the following case bearing upon the feature last described, and of great interest, as one of the very few cases of longitudinal fracture ever met with, presenting no crepitus or obvious signs, and allowing the patient after the injury to stand upon it.

Fracture of Femur through popliteal space, the Artery escaping injury.

S. Bagley, æt. 40. In March 1833, when but a few yards distant from one of the enemy, saw him level his musket, and while calling to him not to fire, received the contents of the piece through both thighs.

When brought to the hospital in Oporto some two or three hours after the receipt of the injury, he stated that profuse bleeding had taken place. He was in a low shivering state, suffering from spasms of all the muscles, and with a trembling hemorrhagic pulse. He was evidently labouring under violent constitutional disturbance.

The right limb during one of the spasms appeared to me somewhat distorted, and gave rise to a suspicion of fracture. On examination, however, I could neither move the lower part of the limb upon the upper, nor could I detect any crepitus. He had also walked across the room.

The hæmorrhage was described to have spouted out in a stream, and the direction of each wound just above the condyles, the ball passing apparently behind the femur, across the course of the artery as it winds into the popliteal space, led to some suspicion that one or even both popliteal arteries might be injured.

The wound was rapidly followed by a severe attack of delirium tremens, and the patient, a hard drinking man, and very unfavourable subject for a severe injury, died on the fifth day. Slight hæmorrhage occurred occasionally.

Post-mortem examination six hours after death. — On passing the finger into the wound of the right limb, I felt the surface between the condyles had been grazed by the passage of the ball, which consequently had traversed under the artery and vein. On proceeding further I detected a fracture; but even then I neither could produce any crepitus, nor move the upper and lower portion (if they may be so described) upon each other. Finally, cutting away all the muscular attachments, a nearly longitudinal fracture, merely diverging a little obliquely, higher up, was laid bare, extending from the base of the internal condyle to the lower portion of the upper third of the femur. The fracture was moreover irregular in figure, the different parts locked or dove-tailed into each other; so that even when thus deprived of all support, the motion was but very trifling. The periosteum in a great part of the length of fracture remained entire.

In the left limb much less mischief had been done; the ball had passed over the artery and vein, and through muscular and tendinous fibres only, to its exit.

The liver was unhealthy in colour, and shewed marks of inflammation on its surface.

This is a case proving that the eye may furnish truer data than the hand sometimes in fracture; and further, I trust it will impress upon your minds one fact of importance, viz. that in reference to the diagnosis of fractures, *negative* evidence must not be implicitly relied upon; it was here very complete, and notwithstanding, the bone, on which the whole weight of the body is thrown in walking, was very extensively fractured.

Such complications of gun-shot wounds as lesion of blood-vessels, &c., are not of course confined to the extremities; but I have considered them first in such situations, because there is an alternative, and the life of the patient may generally be saved, by amputation, if all other means fail. In the face, throat, and neck, when cases of secondary hæmorrhage occur, there is no such alternative, and it will rarely happen that ligature any where but on the artery, at the point of its rupture,

will succeed in stopping the flow of blood. It is generally held, that an incomplete division of a large arterial trunk, whether by shot or incision, will prove instantaneously fatal if no effective means be taken to prevent it; occasionally, however, a very striking exception may occur. One case of this nature I will shortly relate to you, both because I do not know of any similar case on record, and on account of its forming an excellent illustration of the great difficulties, presenting under such circumstances, which may be overcome with a successful result.

In one of the actions in Portugal—it was during a vigorous attack made by the Miguelites, in March 1833, on a part of the lines of Oporto, defended by the Scotch battalion—I observed among the wounded one evidently in danger, lying in a house near the road where they were temporarily placed during the heat of the fight. I examined him; he had apparently received a fatal wound in the face and neck. A musket-ball had entered the right cheek, on a level with the alveolar process of the last molar tooth, and passing downwards, made its exit in the neck of the opposite side, just above the clavicle, grazing the shoulder afterwards.

He lay totally insensible, labouring under the effects of concussion, with stertorous breathing, possibly also suffering from the loss of a large quantity of blood, although there was little about him where he was lying.

He was conveyed to one of the hospitals under my charge in Oporto, where I saw him the next day, considerable tumefaction having come on, both of neck and cheek: he had recovered from the immediate effects of concussion, and was sensible.

On the third day after the action there was already considerable discharge; and on the fourth the sloughs began to separate, and a portion came away from the neck, which then presented a clean-looking wound.

On the fifth it was reported that there had been a little bleeding from both the wounds twice the day previous, and the discharge of matter from the neck was very abundant.

On the seventh, hæmorrhage to a considerable extent returned from the wound in the neck; the blood partly venous and partly arterial: he was plagued with a troublesome cough.

On the eighth I found there had been two or three ounces of blood, chiefly arterial, discharged during the night.

On the ninth a similar report. He had a recurrence of slight hæmorrhage the previous afternoon; none during the night; but again on the ninth evening hæmorrhage to the extent of two or three ounces from the wound in the *cheek*. "Pulse quick, and rather wiry; difficulty of swallowing great; brings on cough. Patient very obstinate and unmanageable; will not attempt to swallow any medicine."

Tenth and eleventh, occasional slight returns of hæmorrhage, generally brought on by a fit of coughing. Pulse very languid.

On the twelfth day, about noon, while I was in the hospital, hæmorrhage returned, and with great violence. Finding pressure on the carotid artery effectually stopped it, and seeing the patient's life in imminent danger, I determined to cut down in the direction of the wound, to ascertain if any opening existed in the common carotid —though I scarcely could believe this to be possible, seeing the repeated and trifling hæmorrhages which had arisen, and at all events to place a ligature on the trunk, and endeavour thus to arrest a hæmorrhage for which there seemed no other remedy.

Having wheeled the bed round to the light, his shoulders and head gently raised, I made an incision over the inner edge of the mastoid muscle, from about the level of the cricoid cartilage to within a short distance of the sternum. I laid bare the edge of the muscle, which could be distinguished, but found it so firmly bound down by lymph and hardened cellular tissue, that neither with my nail nor the handle of the scalpel could I move it a single line, or separate it in the least degree from the parts below. This I effected, therefore, with the scalpel; but instead of finding the smooth cervical fascia, and marking the omo-hyoideus passing across, there was nothing but diseased cellular tissue, condensed by the lymph thrown out in the inflammatory process. I felt the artery feebly pulsating some time before it could be seen, which was at last accomplished after removing a large fibrinous coagulum. The artery was then exposed at a considerable depth from the surface, and a lacerated opening of nearly half an inch in extent was

distinguishable in the canal of the carotid artery. The vein also appeared, though less distinctly, to be lacerated.

I endeavoured to pass a blunt needle under the artery, but found it so firmly embedded in the surrounding diseased structure, that by the edge of the knife alone could I succeed in detaching it. On the side next the trachea it was equally firmly bound; and in the endeavour to separate it a small incision was made into the windpipe; a little blood escaped at the same moment, the air was violently forced out, and he sank to appearance, in almost the same instant, into a state of *articulo mortis*. He seemed to be dying without an effort or a struggle, and for a second I was paralyzed by the conviction of the hopelessness of any attempt to save or restore him; for although it must always be a painful thing to a surgeon to see a patient die during an operation commenced in the hope of saving his life, I had too well considered the case, and convinced myself of the propriety of the operation, and that I had performed it with all the care in my power, to be paralyzed even for an instant by any other feeling than the conviction of his death being at hand. The next moment's reflection suggested the expediency of concluding the operation. I therefore passed a needle through the wounded part of the trachea, and brought the edges together by a thread; secured the artery above and below the laceration, and brought the integuments together by suture and strapping. He began to rally before I had concluded, and was able to speak and answer a question put to him. He breathed perfectly freely, and there was no oozing of blood from either wound; pulse was small and quick.

After this there was no return of hæmorrhage, either from the neck or from the wound in the cheek; and although a few days subsequent to the operation he had a sharp attack of fever, both wounds did well, and he recovered entirely as regarded the neck before he was sent home. Some exfoliation was still going on in the lower jaw; and I told him to shew himself to Mr. Guthrie, who afterwards, in the Westminster Hospital, performed an operation for the removal of a portion of necrosed jaw.

I could not possibly select a better case to prove to you many of the peculiar features of this kind of injury, and the operations they occasionally require; nor to impress upon you the principle, that no difficulty, fear of failure, or rather of moral responsibility, should prevent a surgeon's operating, whenever by that step he offers a chance of safety, where life must otherwise be certainly lost. A motto of ancient chivalry should be that of a surgeon—

"Fais ce que doy advient que pourra!"

By this self-devotion, or courage, if you will, I have seen many lives saved which otherwise would have been certainly lost; and here is the advantage of the labour you are now giving to obtain accurate and extensive knowledge; its acquirement not only insures the best measures suggesting themselves to you in difficult circumstances, but it gives you courage to adopt them in extreme cases, whatever may be the difficulties or danger.

Some rare instances will occur where a smart and often-recurring secondary hæmorrhage, supervening in these complicated injuries of the face and throat, stops spontaneously after a time. The following is an instance—rare exception, however, and never to be counted upon as probable.

Compound Fracture of the Bones of the Face.—Loss of Power of Mastication and impaired Articulation.

Series of the 5th of May.—Joseph Welsh. A musket-ball entered the right superior maxillary bone at the centre, and, passing obliquely downwards across the face, came out at a similar point of the inferior maxillary, crumbling and crushing teeth, bones, and flesh, in its course, to a more than usual extent. On the 4th and 5th day hæmorrhage came on, and on the 5th to such an alarming extent that thoughts were entertained of taking up one or both of the external carotids: from what branch the blood poured it was impossible to decide. The hæmorrhage proceeded from both wounds, and the swelling of the tongue and mouth was too great to allow any examination. It stopped spontaneously, and did not again recur.

At the end of four months there was very little external deformity, and on the left side four good molar teeth were left, with which he would ultimately be able to masticate, although not at that period. He could open his mouth to

two-thirds of its natural extent. After a somewhat tedious exfoliation, a good union of bone was effected.

Let me warn you against the use of the tourniquet for the suppression of hæmorrhage, during the performance of an operation to secure a wounded vessel. Let pressure be made on the trunk of the artery alone, by the thumb or fingers of the assistant, without encircling the whole limb. This kind of pressure was changed by the assistant in a case where I was operating for wounded radial artery near the bend, and instantly and continually the wound was filled with venous blood, from which it was impossible to clear it for more than an instant.

I shall here conclude my remarks on these (certainly the most formidable) complications of fracture and of gun-shot wounds generally; formidable both to the patient and the surgeon. I trust these observations in connexion with the cases I have related will serve to make you acquainted with the nature and proper treatment of such accidents, and when they suddenly occur in practice hereafter, prevent your being taken unprepared.

I shall next proceed to the consideration of another class of most important and complicated injuries—those of the head and spine. The previous lectures having been much devoted to the general characters and course of *gun-shot* wounds, the accompanying tables, made out with great care, to shew the duration of treatment for wounds of the various classes, and their mortality from the first to the sixth month, may serve to complete the view. I am not aware that any similar attempt has been made to demonstrate the proportionate duration of treatment and ratio of mortality; and the subject seems to me both practically important and interesting.

General Return of Surgical Cases treated, and capital Operations performed in the General Military Hospital of St. Elmo, San Sebastian, from 5th May, 1836, to June 10th, 1837—a period of thirteen months.

First Month.

Description of Wounds on admission.	Total admitted.	Discharged to Duty, 1st Month.	Transferred to Santander.	Invalided. Cured.	Died.	Remain	Proportion of Deaths to Cases treated.
C. F. of cranium with lesion of contents	18	0	0	0	18	0	1 to 1
Do. without lesion of contents	10	1	0	0	4	5	1 to $2\frac{1}{2}$
Abrasion of pericranium	3	0	0	0	0	3	0 to 1
Scalp wounds	58	28	0	0	1	29	1 to 58
P. G. S. W. of thorax with lesion of contents	29	0	0	0	25	4	1 to $1\frac{4}{25}$
Do. without lesion of contents	9	1	0	0	2	6	1 to $4\frac{1}{2}$
P. G. S. W. of abdomen, with lesion of contents	18	0	0	0	17	1	1 to $1\frac{1}{17}$
Do. without lesion of contents	1	0	0	0	0	1	0 to 1
Pg. thorax and abdomen, with lesion of contents	3	0	0	0	3	0	1 to 1
Pg. wounds of joints	37	0	0	0	18	19	1 to $2\frac{1}{18}$
Amputations in the field	15	0	0	0	5	10	1 to 3
Wounds of spine	2	0	0	0	2	0	1 to 1
C. F. of femur	20	0	0	0	4	16	1 to 5
Do. of leg	57	0	0	0	12	45	1 to $4\frac{3}{4}$
Do. of arm	31	0	0	0	9	22	1 to $3\frac{4}{9}$
Do. of fore-arm	52	1	2	0	1	48	1 to 52
General wounds severe	403	5	1	0	36	361	1 to $11\frac{7}{36}$
Do. slight	585	218	12	0	3	353	1 to 195
Total	1351	245	15	0	160	922	1 to $8\frac{71}{160}$

Second Month.

Description of Wounds.	Remained at last Report.	Discharged.	Transferred.	Invalided.	Died.	Remain.	Proportion of Deaths to Cases treated.
Compound fracture of skull, without injury to brain	5	2	0	0	0	3	0 to 1
Abrasion of pericranium	3	0	2	0	1	0	1 to 3
Scalp wounds	29	12	2	1	0	14	0 to 1
Penetrating gun-shot wounds of thorax, with lesion of contents	4	0	0	0	1	3	1 to 4
Do. without lesion of contents	6	0	0	0	0	6	0 to 1
Penetrating gun-shot wounds of abdomen, with lesion of contents	1	0	0	0	1	0	1 to 1
Do. without lesion of contents	1	0	0	0	0	1	0 to 1
Wounds of joints	13	2	0	0	3	8	1 to 4 1/3
Amputations on the field	10	2	0	0	0	8	0 to 1
Do. in hospital	*27	1	0	1	1	24	1 to 27
Compound fracture of femur	13	0	0	0	2	11	1 to 6 1/2
Do. of leg	39	1	1	0	5	32	1 to 7 4/5
Do. of arm	14	0	0	0	1	13	1 to 14
Do. of fore-arm	45	1	3	0	1	40	1 to 45
General wounds, severe	360	48	54	2	2	254	1 to 180
Do. slight	352	228	19	0	0	105	0 to 1
Total....	922	297	81	4	18	522	1 to 51 2/3

Third Month.

Disease and State of Wounds.	Remaining at last Report.	Discharged.	Transferred.	Invalided.	Died.	Remain.	Proportion.
C. F. of cranium, without lesion.	3	2	0	1	0	0	0 to 1
Scalp wounds	14	11	0	0	0	3	0 to 1
G. S. W. Pg. thorax, with lesion	3	0	0	1	1	1	1 to 3
Do. without	6	1	0	4	0	1	0 to 1
G. S. W. Pg. abdomen, without lesion	1	0	0	1	0	0	0 to 1
Wounds of joints	8	0	1	1	0	6	0 to 1
Amputations on the field	8	3	2	0	0	3	0 to 1
Do. in the hospital	26	0	0	6	0	20	0 to 1
Comp. Fract. of femur	9	0	0	0	5	4	1 to 1 4/5
Do. of leg	32	5	0	7	2	18	1 to 16
Do. of arm	13	0	0	0	0	13	0 to 1
Do. of fore-arm	40	10	1	15	0	14	0 to 1
General wounds severe	254	71	34	34	4	111	1 to 63 1/2
Do. slight	105	74	0	0	0	31	0 to 1
Total..	522	177	38	70	12	225	1 to 43 1/2

* There is an apparent discrepancy under the columns in which those remaining are carried forward from last report; but this will be found to consist of the amputations performed in the intermediate time from among the severe injures of the extremities, making an alteration in the distribution or denomination necessary.

Fourth Month.

Description of Wounds.	Remained last Report.	Discharged.	Transferred.	Invalided.	Died.	Remain.	Proportion.
Scalp wounds	3	0	0	0	0	3	0 to 1
G. S. W. Pg. thorax, with lesion	1	0	0	0	0	1	0 to 1
Do. without	1	0	0	1	0	0	0 to 1
Wounds of joints	6	0	1	0	0	5	0 to 1
Amputations on the field	3	0	0	3	0	0	0 to 1
Amputations in the hospital	20	0	0	14	0	6	0 to 1
Comp. Fract. of femur	4	0	0	0	0	4	0 to 1
Do. of leg	18	0	0	5	0	13	0 to 1
Do. of arm	13	0	0	3	1	9	1 to 13
Do. of fore-arm	14	0	1	5	0	8	0 to 1
General wounds severe	111	13	24	36	2	36	1 to 55½
Do. slight	31	24	3	0	0	4	0 to 1
Total	225	37	29	67	3	89	1 to 75

Fifth Month.

Description of Wounds.	Remained at last Report.	Discharged to Duty.	Transferred to Santander.	Invalided Cured.	Died.	Remain under Treatment.	Proportion of Deaths to Cases treated.
Scalp wounds	3	0	1	0	0	2	0 to 1
Gun-shot wounds penetrating the thorax, with lesion	1	0	0	0	0	1	0 to 1
Wounds of joints	5	0	0	3	0	2	0 to 1
Amputations in the hospital	6	0	0	3	1	2	1 to 6
Compound fracture of femur	4	0	2	0	0	2	0 to 1
Do. of leg	13	0	0	12	0	1	0 to 1
Do. of arm	9	1	0	7	0	1	0 to 1
Do. of fore-arm	8	0	0	7	0	1	0 to 1
General wounds, severe	36	9	0	23	0	4	0 to 1
Do. slight	4	4	0	0	0	0	0 to 1
Total	89	14	3	55	1	16	1 to 89

SIXTH MONTH.

Description of Wounds.	Remained at last Report.	Discharged to Duty.	Transferred to Santander.	Invalided Cured.	Died.	Remain under Treatment.	Proportion of Deaths to Cases treated.	Remarks.
Scalp wounds.....	2	1	0	0	0	1	0 to 1	Invalided eighth month.
Gun-shot wounds penetrating the thorax	1	0	0	1	0	0	0 to 1	
Wounds of joints	2	0	0	1	0	1	0 to 1	Amputated and invalided.
Amputations in hospital	3	0	0	0	0	3	0 to 1	Invalided after sixth month.
Compound fracture of femur	1	0	0	0	0	1	0 to 1	Remained with useless limb.
Do. of leg	1	0	0	0	0	1	0 to 1	Invalided.
Do of arm	1	0	0	0	0	1	0 to 1	Cured, slight weakness remaining.
Do. of fore-arm	1	0	0	0	0	1	0 to 1	Amputated and invalided.
General wounds, severe	4	0	0	0	1	3	1 to 4	Invalided eighth and ninth months.
Total	16	1	0	2	1	12	1 to 16	

INDUCTION OF PREMATURE LABOUR,

WITH REMARKS.

To the Editor of the Medical Gazette.

SIR,

IN the MEDICAL GAZETTE for the 8th of September, 1838, you were kind enough to favour me with the insertion of a very interesting and important midwifery case. By referring to it, you will find that it was one where I was under the necessity of inducing premature labour, in consequence of a considerable contraction or deformity of the pelvis; and the mode I adopted for accomplishing this purpose, so far as I can ascertain, differed from that of any preceding obstetrician, inasmuch as it was effected by the administration of the secale cornutum, to the exclusion of every other means. The previous history of the patient was pretty minutely given; but, lest some of your present readers may not have seen the case, nor have any convenient opportunity of seeing it, I will briefly state a few of the particulars, that they may the more fully understand the propriety of the practice pursued in the one which follows:—

The patient, Mrs. R. Brown, of Tylefield, was 29 years of age, and had borne eight children. Her first labour was comparatively easy, but every succeeding one became more difficult and dangerous, in consequence of the pelvic bones gradually encroaching on the cavity and outlet of the pelvis. The three first children were born alive; the fourth required the forceps, and was dead; the fifth, though remarkably small, likewise required the forceps, and was born in a state of asphyxia, but, by proper treatment, recovered. In the sixth I attended her, and on a careful examination found that the conjugate diameter of the pelvis did not exceed three inches, so that after a tedious and most painful labour, being unable to deliver her with the forceps, I was obliged to perform embryotomy, after which she was delivered of a very large male child. She recovered well, soon afterwards became pregnant, and allowed herself to go to the full period of gestation. A surgeon attended her, who, finding it impossible to deliver her in the natural way, or with the for-

ceps, was obliged, with the assistance of another surgeon, to break down the head. From the effects of this confinement, she recovered slowly, and was ever afterwards afflicted with an extensive vesico-vaginal fistula. Independently of her misfortune and her former sufferings, she again was pregnant, and consulted me in the fourth month, when I advised her, for her own safety, and as the only chance which remained for the preservation of her infant, to have labour induced in the seventh month of utero-gestation. She agreed to this, and I was fortunate enough to accomplish it by means of the following:—

℞ Pulv. Secale Cornut. ʒss. Aq. bull. ʒxxiv. Syrupi Simp. ʒj. M.

Two ounces of this infusion were exhibited every third hour, and after this quantity was finished, other two drachms were prepared in the same way, and given at shorter intervals; so that altogether she took six drachms of the medicine, and the time occupied from the first administration to the birth of the child, which was alive, was thirty-nine hours and fifteen minutes.

Since the publication of the case, it has afforded me much pleasure to observe, that Mr. Heane, a gentleman of considerable experience, in Gloucester, has been induced, by reading my paper, to adopt the same practice with a patient (Harriet Sander, æt. 43) who had been pregnant thirteen times, and had six of her children still-born, five of them having been destroyed by the perforator. The preparation of the drug, and the mode of administration, were the same as I had employed, and I am happy to say that it was attended with complete success, in the short period of twenty-two hours. The details of this excellent case are given in the Medical Gazette for the 26th of January, 1839.

Mrs. R. Brown, of Tylefield, having again nearly completed the seventh month of utero-gestation, on Monday, the 29th of April, I commenced the operation of inducing premature labour. The bowels were freely evacuated in the forenoon with the pil. colocynth. comp.; and at 10 o'clock P.M. she had ʒss. of the pulv. secale cornut., prepared as in her former case, administered in the same doses and at the same intervals of time. When twenty-four hours had elapsed, little effect was produced, with the exception of a feeling of weight about the loins, and a slight tendency to bearing down. No impression was made on the os uteri, nor had there been any thing like distinct pains. On Wednesday, the 1st of May, at twelve o'clock meridian, there was still little alteration; and, as there had been no motion of the bowels since Monday, she had a couple of colocynth pills, which operated mildly. Her infusion being done, I divided an ounce of finely pulverized secale into sixteen powders, and ordered one to be taken every second hour, after being macerated in boiling water for twenty minutes. Slight uterine pains followed the administration of the second dose, and at 8 o'clock P.M. the os uteri was dilated sufficiently to admit the point of the finger. I made no attempt to ascertain the presentation, lest the effort should separate the membranes, and thus interfere with the intended action of the medicine.

Thursday, 11 o'clock A.M.—During the night she had frequent pains, but only attended with slight bearing-down; and on examining, I now found the neck of the uterus more obliterated, the os uteri softer, and dilated above an inch; the membranes felt distended with the liquor amnii, but the child had not yet entered the pelvic cavity.

9 o'clock P.M.—Has taken all the powders, and is much in the same way as in the morning. She feels the motion of the child very lively. Seeing that labour was not likely to be speedily effected with the quantity of medicine she had taken, I infused ten drachms of the secale in twenty-four ounces of boiling water, and of this she took two ounces every third hour.

On Saturday, at 11 o'clock A.M., there was little further perceptible change, and I almost despaired of accomplishing the desired object by the efficacy of the secale cornutum alone. As she had taken two ounces and six drachms, I considered it would not be proper or justifiable to push the medicine further, without having the opinion of some other practitioner on the subject. I therefore called in an experienced medical friend, who examined minutely into the state of the patient's feelings, in order to ascertain if she found any ill effect from having taken so much secale. Her strength being good, her pulse

regular and calm, her appetite not at all impaired, and as she said that she did not experience the slightest inconvenience, there being nothing to contra-indicate the practice, with the view of giving the medicine a complete trial we agreed to prepare other ten drachms as before, but to give it in rather smaller doses, and at intervals of two hours. At four o'clock P.M. she commenced taking it as prescribed, and in a few hours was conscious of stronger pains and more bearing down. By seven o'clock on Sunday morning this infusion was finished, but owing to my being engaged with two other accouchments I was prevented from seeing her till two o'clock P.M. Pains had then left her for some hours, though, on examining, I found the os uteri very low, dilated to the size of a crown-piece, soft, and yielding readily to the fingers. The presentation, which was a footling, could be easily made out through the membranes, which protruded from the os uteri. Since I saw her last she had enjoyed a most refreshing sleep, and had taken her breakfast heartily.

It was now evident that a termination of the labour could not be far distant, and that it only required a regular and quick succession of pains to accomplish this much longed for event. I waited for two hours, trusting that nature would soon establish her own process, and thus, without further interference, effect the expulsion of the child; but not the slightest symptom of a pain occurred, and the patient seemed anxious that I should do something. From the generally relaxed state of the parts, and the progress she had made, I considered it likely that another dose of the secale cornutum would in all probability excite the uterine contractions. I infused two drachms, and gave her the third part of it at four o'clock. In fifteen minutes a pain ensued; in twenty minutes another; and at the half hour she had a good bearing-down pain. They now continued regular and effective. At five o'clock the membranes protruded from the vulva; but I endeavoured to prevent them giving way as long as possible, in order that the liquor amnii might save the child from severe pressure till it had reached such a position in the pelvis as to be easily extracted after the discharge of the waters. At fifteen minutes past five o'clock they gave way during a pain, and a considerable quantity of liquor amnii was discharged. One of the feet came into the vagina; and, on carrying up my finger, I found the other foot and leg resting on the symphysis pubis. I brought it cautiously down, and, after doing so, found that the breech was firmly wedged in the superior cavity of the pelvis, with the back directed towards the mother's abdomen. The child was lively, and moved the legs freely; but on trying to assist it down, I discovered that the funis had unfortunately got round the thigh, and passed between the legs up the back, so that the child might literally be said to be riding across it. I did all in my power to rectify this untoward event; but from the diminished capacity of the pelvis, it was impossible to carry the hand sufficiently high to enable me to do so. I had recourse to the only alternative, of supporting the child so as to save the cord as much as possible from pressure. Immediately after the evacuation of the amniotic fluid, the uterine contractions became weaker and less frequent, so that twenty-five minutes elapsed before the body passed through the upper cavity. I then got the thigh disentangled from the funis; but, I am sorry to say, by this time the umbilical pulsation had entirely ceased. As it could serve no purpose now to prolong the labour, and the pains being slack, I administered the remainder of the secale at fifteen minutes to six o'clock. In a few minutes its action commenced, and capital pains followed; but independently of this, and all the efforts I could use, the head was not expelled till twenty-five minutes past six o'clock P.M., being five days, twenty hours, and twenty-five minutes, from the first exhibition of the secale cornutum, the patient having swallowed no less than thirty-four drachms of the medicine.

May 6th.—Has had almost no after-pains, and slept several hours last night; lochial discharge free; feels no complaint.

9th, 2 P.M.—Milk has been plentifully secreted; is already up, and taking charge of her household affairs. Dismissed.

REMARKS.—This case is highly valuable in two points of view:—1st. In

addition to the two cases previously published in the GAZETTE, it affords a most satisfactory proof that the secale cornutum is of itself sufficient to accomplish the induction of premature labour. 2d. It proves that a very large quantity may be given without producing the slightest bad effect or inconvenience, either to the mother or child.

That it is, to the exclusion of every other means, perfectly capable to induce premature labour in the advanced stages of utero-gestation, will, I think, now be admitted by every unprejudiced experienced obstetrician. If this deduction cannot be made from the three cases now before the profession, I do not know from what principle of logic the fact can be established. The details have been given at considerable length; indeed, the *minutiæ* of all the different stages have been entered on with a fulness, and, I trust, fidelity, that, if they are carefully examined, no one, I think, can fail to arrive at a firm conviction of the truth of the conclusion I have drawn.

But it may be argued that the case, may prove a dangerous precedent for young or rash practitioners in tedious cases of natural parturition. Of this I shall speak hereafter. In the meantime, however, I do admit, that after I had given two ounces and six drachms of the secale, without producing the desired effect, I anticipated nothing less than a total failure; but, prompted by the feelings of the patient, the co-operating opinion of my esteemed medical friend, and the successful result of the two previous cases, the practice was continued, and the favourable issue has satisfactorily borne it out. Here two questions very naturally occur. What could be the reason of such a large quantity of secale being required in the present instance, when six drachms formerly produced the same effect with the same patient in much less time? If it is at all a uterine specific, if I may be allowed the term, why is its action so various that, in the case of Harriet Sander, three drachms produced the effect in twenty-two hours; while in Mrs. B.'s it required upwards of a quarter of a pound, and a period fully six times longer? The same answer may be given in reference to these questions as has uniformly been offered when endeavouring to explain the specific action of any medicine. The *modus agendi* is unknown. I consider it as one of the *arcana naturæ*, which yet remains to be determined by the discoveries of some fortunate physiologist. But its use in practice cannot be objected to for this reason, till it has been satisfactorily proved how that the tartrate of antimony will in one case act as an emetic, while in another it has been known totally to fail. That the secale cornutum I used on the present occasion was good, I have no doubt, for I administered the same in my other practice with its usual success.

Having long directed much of my attention to this subject, from the observations I have made, I would offer the following explanation:—In proportion as the period of natural parturition draws near, *cæteris paribus*, so will the action of the secale be manifested on the system. The induction of labour was completed at least three weeks earlier than in her former case, as was evident from the comparative size and appearances of the children. The doctrine here laid down, I think, must be readily conceded; for it is rational to believe that, as the full period of gestation draws near, the natural predisposition of the uterus to expel its contents will be greater; consequently, a medicine, now almost universally admitted to act in cases of weak labour pains, will, from sympathy, more easily accomplish the object for which it was given; and hence, I believe, the reason why, when exhibited in parturient cases, where the uterine action has become weak, the small dose of a scruple, or half a drachm, has frequently produced such astonishing effects. This is well illustrated in the history of the present case. For a considerable time the medicine *seemed* to produce no effect, but the result has proved that this invisible action, or call it what you will, must must have been gradually exciting the uterine system to assume its expulsive functions, in the same way as we observe it done by the slight spurious pains at the commencement of a natural labour. As we trace the progress of the case, we find manifest improvement. Slight pains occasionally occur; the os uteri softens and dilates; and, finally, when a tendency to labour is fairly established, we have regular expulsive pains excited by the last two drachms, and these continue till the delivery is accomplished. It is true, I almost

despaired of success, but it was more from the want of experience in giving, or a precedent to give, so much medicine, than from a fear that the labour would not then be effected.

That inducing premature parturition is an unnatural process, no one can justly deny; and I believe that the earlier the period in which this is attempted, there will be the less likelihood of success—at least by the agent I have employed. It has been supposed that if the secale be found efficacious in strengthening the uterine contractions in natural parturition at the full period of gestation, it will likewise be effectual in the early months of pregnancy, and thus be had recourse to for the base purpose of procuring criminal abortion. Chapman*, Goupil†, Pellitier‡, and Planche, Gerardin§, Guibert, Lorinser, Waller, and several others, have entertained this opinion; while Steanns‖, Wesener¶, Villeneuve**, Chatard††, Dr. Hall of St. Albans, one of the greatest declaimers against the use of the secale in any circumstances, Michell‡‡, and last, but not least, my respected teacher, Dr. Burns§§, with a host of other more modern writers, might be adduced, who deny its powers as an abortive. Several well authenticated circumstances have lately come under my notice, which, taken into consideration with numerous experiments made upon the lower animals, go far, in my opinion, to prove that this medicine can by no means be regarded as an abortive; though, from these circumstances and experiments, I am not as yet prepared to draw a line of demarcation as to the exact period when it may be said to act, as it were, specifically upon the gravid uterus.

The history of the present case shews that a vast quantity of the medicine may be taken with perfect impunity to the mother and her offspring. I have never, in the course of my reading, met with an instance where so much of the medicine was given to an *enceinte* patient; but, from the moment she partook of it, to the period at which I write, she has not experienced the slightest unpleasant symptom, nor, indeed, have I ever observed any bad result from the use of the secale cornutum. Many experiments have been made by professional *men* upon *themselves*, with the view of ascertaining its deleterious effects; but as this medicine may be regarded as being chiefly applied to the uterus in its normal and abnormal states, and more particularly as the quantity employed in practice is generally small, I do not see what benefit can be expected to accrue to medical science from such experiments—especially as the experimenters are not endowed with a uterine system, upon which it is almost exclusively supposed to exert its action. Parmontier*, Goupil†, Michell‡, and Maier, reported by Wesener§, may be mentioned as those who carried these experiments to the greatest extent. Dr. Oliver Prescot‖ has exhibited an ounce in a week in a case of amenorrhœa, and Michell¶ has mentioned that Dr. Randall has given no less than six ounces in nine days, for the same complaint, without producing any prejudicial effect.

But it may be said that Mrs. B.'s case will afford a dangerous precedent for young practitioners in protracted labours at the full period of gestation. I wish it to be distinctly understood, that I deprecate the indiscriminate use of this medicine; I hold it as an invaluable boon to the obstetrical department of the profession, but its employment requires the utmost caution and discrimination. No one is warranted to give it without fully understanding the whole mechanism of parturition, and the general principles of labour; and even then its administration can only be admissible after the progress of the labour, with the presentation of the child, have been ascertained to be favourable.

With regard to the quantity to be given, I have tried it in all proportions, from a scruple to a drachm, but seldom have I found it necessary to exceed this

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* Vide Treatise on Therapeutics, 3d edit. Philadelphia, 1824.
† Nouv. Bibl. Méd. tom. iii. 1826.
‡ Gazette de Santé, 1826.
§ Med. and Phys. Journ. London, vol. iii.
‖ New York Med. Repos. 1808.
¶ Le Journal de Hufeland, apud Bibl. Méd. tom. lxii. 1818.
** Bibl. Méd. tom. lxxii.; Gaz. de Santé. Paris, 1819.
†† Med. Repos. vol. v. New York, 1820.
‡‡ Difficult Cases of Parturition. London, 1828.
§§ Principles of Midwifery.

* Lettre à l'Abbé Rozier, Journ. de Phys. tom. iv. Paris, 1774.
† Vide opera cit.
‡ Vide opera cit.
§ Vide opera cit.
‖ Lond. Med. and Phys. Journ. vol. xxxii. 1815.
¶ Vide opera cit.

in any case where its use was indicated.

Much has been said by various authors respecting its effect upon the fœtus; and some have even gone so far as directly to accuse it of killing the child, as it were mechanically, in consequence of the violent uterine contractions which it artificially excites. It has likewise been supposed that its action has caused fatal asphyxia, by obliterating the circulation between the placenta and the infant. In the present condition of medical science these statements may well be regarded as mere gratuitous assumptions, and far from being proved. In short, the reason why the child's death is so often attributed to its action is, that it is only administered—at least should only be administered—in long lingering cases, in which, it must be admitted, that the offspring is frequently still-born where no secale has been exhibited. The case before us shows that no effect was produced upon the child, because, after the enormous quantity of four ounces had been taken, the movements of the fœtus were lively; and had it not been for the unfortunate circumstance of the funis being entangled with the thigh, and carried down before the body, I have not the slightest doubt that it would have been born alive. Several papers, for and against the use of the secale cornutum, have lately appeared in the Gazette and in the Lancet; but neither my time nor my space will at present allow me to allude to the doctrines they contain. I shall probably, however, on some future occasion, take the liberty of adverting to them; in the mean time, in concluding these observations, I cannot do better than quote the following very condensed analysis, from the valuable report of the Berlin Lying-in Hospital, by the celebrated Professor Busch. The original will be found by consulting *Neue Zeitschrift für Geburtskunde*, vol. xv. 1837:—In 175 cases, where it was given on account of weak labour-pains, after the os uteri was well dilated, 177 children were born: of these 142 were born alive, 18 in a state of asphyxia, but by proper treatment recovered; and 17 were born dead. On examining these, it was evident that 7 had been dead for some time previous to the administration of the medicine; and of the 10 others, which died during labour, 2 lost their lives from prolapsus of the funis; 2 from turning; 1 from presentation of the nates; 1 from contracted pelvis and consequent impaction of the head; 2 from rigidity of the external parts; 1 from deformity of the extremities; and 1 from no very peculiar cause. Agreeably to this statement, therefore, only *one death* out of 177 births could properly be attributed to the employment of the secale cornutum.

This ought certainly to go far to silence the clamors of the *anti-ergotists*. That it may be capable of producing all the dangerous effects which they assign to it, I question not—but this is the *abuse*, and not the *use* of the medicine.

I am, sir,
Your obedient servant,
James Paterson, M.D., &c.

Stevenson Street, Calton, Glasgow,
14th May, 1839.

SUGGESTIONS ON THE "PHYSIOLOGICAL PROBLEM" OF DR. GRIFFIN.

By Dr. David Badham.

(For the London Medical Gazette.)

I observe in some recent Nos. of the Medical Gazette, that Dr. Griffin of Limerick has, in a series of ingenious papers, invited attention to a topic, which, though more general in its bearings, is nevertheless very intimately connected with one which I had already briefly entered upon several years ago through the same channel, and subsequently, more at length, in Blackwood's Magazine. I had inquired into the grounds of the popular belief that insects design, intend, contrive, the works they execute; and partake of sensation in common with the higher order of animals. Dr. Griffin assumes, as beyond controversy, that insects feel; but would have us doubt with him, whether that which feels is necessarily and consequently conscious. Now that sentient beings are not therefore conscious, that is, in his sense of the word, self-conscious, is a proposition to which we should not demur; at the same time we cannot consider those experiments (performed or quoted) which he brings forwards as conclusive in proof of it: and as to ulterior conse-

quences, which your ingenious correspondent has drawn from such experiments, they appear to us to be liable to weighty objections.

In the papers above alluded to, I had endeavoured to make it probable, in opposition to popular belief, that insects are not endowed with sensibility: 1st, from certain essential anatomical deficiencies in their structure; 2dly, from certain invincible metaphysical difficulties arising out of the very nature and essence of individuality.

On dividing insects at their anterior and posterior corslets, and worms any where, as I had invariably found that the divided pieces of these creatures acted, so to speak, as when they were parts of a whole, in connexion with the rest of the body and the chain of ganglia entire, it was concluded that the office of these ganglia (the nearest approach to brain that such creatures exhibit), be it what it may, is one and the same office, and throughout their structure; and as all the ganglia cannot be brains, in the sense of ultimate recipients of sensation—points to which all impressions from without converge — none should seem to have more right to the attributes of brain than others. I had further argued that as sensation, motion, and nutrition, in the higher animals, may be properly considered to have separate orders of nerves; and as the first of these functions, sensation, is evidently an attribute of a higher order of being, or, it were better to say, a higher attribute than the other two, it would be no extravagant hypothesis (though in such subjects we would attach little importance to mere *à priori* speculations) that creatures might exist, to which sensation was neither necessary nor expedient; while to move and to be nourished, or to move for the purpose of acquiring nourishment, are conditions hypothetically inseparable from even the lowest grades of animal existence. But this is not all that can be urged in support of my heretical opinions: the amount of sensibility seems in all animals to bear reference to the amount of brain, or of functions accomplished by brain, or at any rate not accomplished where there is no brain (take intelligence, memory, and their consequences—docility and attachment), consequently it should be held, not only possible, but probable, that at a certain point in the scale of being (that point where those intellectual qualities are either null or unobservable) sensibility will not be necessary.

The commonly and vaguely assumed proof of sensibility in the inferior tribes is the occurrence of certain motions, which, on the application of certain agents to their bodies, or the infliction of certain mechanical injuries on their structures, are taken for unequivocal indications or expressions of pain. No doubt motion comes of nerves. In whatever moves, a nervous structure, molecular, diffused, or associated, or in threads, is either to be seen or must be supposed: but to argue, from nerve being alike the organic agent of motion and of sensibility, that whatever moves also, and therefore feels, is to force the conclusion beyond legitimate warrant, and appears to me to be quite unauthorized. Motion and sensation have not the slightest analogy! they are such very different manifestations of nervous power, that, apart from the often demonstrably separate origin of the nerves, which in the higher animals subserve both, it is really strange how even a popular physiology should speak of the former as if it involved the latter, for no better reason than that contractions or changes in the disposition of moving fibres are observed in animals exposed to mechanical or chemical irritants which we know would inflict pain if applied to ourselves. It is surely conceivable, that the application of irritating agents may be felt, acknowledged, or responded to by motion, and not felt, acknowledged, or responded to by sensation; yet Dr Griffin, like many other writers, thinks it sufficient apparently to appeal to one result, when he would prove the other, since we find him speaking of the "sentient nature of certain movements," and of the "sensation connected with, or necessarily dependent on, every nervous system." These, however, and similar modes of expression, are far from peculiar to Dr. Griffin: throughout the Bridgewater Treatise of Dr. Roget, it is assumed that the final aim of all animal life is animal enjoyment, and that enjoyment is inferred from animal activity. Both these writers, however, had been long ago anticipated by Paley, who speaks confidently of the "joy" with which birds skim the water, with which fish spring in the stream, with which insects hop or fly, all which supposed evi-

dences of delight, however pleasing and familiar, and, we admit, in the more highly organized animals, unquestionably true, is, when applied to the inferior, no more than the argument from analogy, against which other analogies may easily be perceived: for what right have we to say, that the buzzing of a fly, or a bee, is so much enjoyment acquired by exercise of its wings. No one, says Dr. Griffin, will deny sensation and consciousness to a worm: nay, but the question is, on what grounds are sensation and conciousness conceded to a worm? is it that the ordinary movements of a worm appear to be voluntary; its seeming to choose or select means of escaping from danger? its hunger and thirst? its sexual propensities?—but are not the whole of these "facts" perhaps equivocal? Nay, in the experiments quoted, on undoubtedly sentient animals, which fly, walk, or hop, (according to their usual mode of progression) after decapitation, to say that they therefore feel, is to say that muscular movements can only arise from sensations; nor is it less an assumption to affirm that when paralysis results from division of the spinal cord, the animal which moves no longer, can therefore feel no longer. Mr. Carpenter, in his valuable paper on the voluntary and instinctive actions has indeed somewhat anticipated me in noticing that "those ideas about sensation, consciousness, and volition, which most persons mix up with their notions of instinctive movements, cannot be truly regarded as essential to, though they frequently attend them;" and M. Virey, in a recent meeting of the Academy of Medicine has, I observe, endeavoured to establish, that in the inferior creatures, the "nervous apparatus" is "chiefly for motion," and that it only becomes an "apparatus for sensation" as we ascend the scale of being.

The fact is, that all that relates to the physiology of the nervous system is so encumbered with bad metaphysics, as to vitiate many of its most important results; and it is to be regretted, that while the study of physics is risen into higher favour, and made compulsory, the study of mental phenomena is neglected, or its utility questioned.

This brings me to notice more particularly an argument made use of by Dr. Griffin, in his late paper, derived from the indivisibility of conciousness. Sensation, he conceives to be "diffused and divisible;" while consciousness, as every body admits, is single, and incapable of resolution into parts. If for the words sensation and consciousness, which are abstract nouns, and cannot therefore, have any real existence, we substitute the phrases "a concious being" and a "sentient being," we shall perhaps see our way more plainly. A self-conscious being is indivisible: granted; but why? merely because it is self-conscious? that assuredly is one reason; for where the percipient and the thing perceived are one, (which is the meaning of self-consciousness) any violence offered to the one-ness of either, destroys the whole conception; but, I repeat, is this the only reason why a self-conscious being is indivisible? Is it not evident that a being, *quâ* being, is indivisible, whether it reflect upon its own existence or not? Else, what do we mean by individual? But for the same reasons a being which feels, is, and can be, but one; to constitute the sentient equally with the conscious being, we are to suppose, as it were, one point in which the varieties of external impressions meet—one faculty by which, though unconsciously, the notices of the senses are classed under the category of pleasure or pain; while mere impressions on matter, though on the subtlest organ, have nothing to do with those categories. Our proposition is not that a worm, granting it to be capable of sensation as a whole, cannot be divided into several smaller worms, whereof each shall be endowed with a seperate capacity of the same nature; but that, if that were the case, one individual would then have become many; or, that in dividing one body inhabited by one life, we have, as it were, created new bodies, each with its seperate sensibility: which "creation" would not be at all more mysterious, by the way, than any other mode of generation; only it would violate the analogies of that process as usually observed in other instances. But, be this as it may, it is a very different thing to say, that one cannot be more than one, and to assert that there are no means by which one can become many. It is the former self-evident proposition which Dr. Griffin in fact contradicts, when he speaks of a "succession of momentary impressions" as constituting a purely sentient being; since it is plain that the permanent

identity of the percipient remaining the same, amidst the ever varying succession of the things perceived, (the one-ness of the subject being undisturbed by the multiplicity of the objects,) must for ever lie at the very root of our conception of a percipient being.

REMEDIAL PROPERTIES OF SEA-AIR.

To the Editor of the Medical Gazette.

Sir,

To beguile the tedium of a sick couch, I have thrown together some observations on the nature and properties of sea-air, which, I trust, you will think of sufficient interest to merit a place in the Gazette.—I remain, sir,

Your obedient servant,

Edw. Greenhow, M.D.

North Shields, May 23, 1839.

In a country like Great Britain, which, from its insular situation, possesses an extensive line of coast, it becomes a matter of some importance to ascertain what influence sea-air is capable of exercising over the functions of the human system, both that we may be enabled to judge how far a residence at the sea-side is conducive to health, and also in what cases it may be made available in the cure of disease.

From a very early period, sea-air has been held in great esteem for its bracing and invigorating properties, and there is no change so generally beneficial to invalids as a removal from a close and populous town to the sea-coast. This was well known to the ancients; and in the glorious days of Athens, the Archons were accustomed to resort to the Piræus to repair the ravages which luxury had occasioned; and at a later period, the patricians of Rome, during the heats of summer, were accustomed to leave the Eternal City and the Pontine Marshes, to breathe a purer air in their palaces at Baia; and at the present day, every one, from the noble to the mechanic, thinks it necessary to pay an annual visit to the coast: but while all are willing to admit the benefit derived from such a visit, few think of inquiring to what peculiar property of sea-air they are indebted for their increased elasticity of frame and exaltation of spirits. Some medical writers attribute the effects of sea-air to its greater purity, being free from the taint of marsh effluvia; the soil on the sea-coast being for the most part dry, and also that the winds are unrestrained in their course by opposing objects — as trees; and thus admitting of a free and more uninterrupted circulation. Ingenhous goes beyond this, and endeavours to prove that it contains a larger proportion of oxygen. In this, however, he has obviously failed, it appearing incredible that so subtle a fluid should exist in a greater abundance in one part of the atmosphere than in another; nor is such a belief in accordance with the known effects of sea-air upon consumptive persons. To what, then, are we to ascribe the peculiar virtues of sea-air, and in what respect does it differ from that of the interior of the country? In answer to these questions, I would say, its most important quality is its impregnation with saline and other particles, which it derives partly from the sea itself, and also in part from the different fuci growing on its shores. This impregnation probably consists principally of chlorine, but contains also a portion of iodine, which, being inhaled into the lungs, and also absorbed through the medium of the skin, imparts a more florid hue to the blood, increases the animal heat, and gives an additional impetus to all the functions of life. This, as I said before, is by far the most important property of sea-air, and one which exercises an extraordinary influence over certain diseases: those to which I more especially allude, are pulmonary phthisis and scrofulous affections, both of which are of much more rare occurrence at the sea-side than in the interior of the country; sea-air being evidently unfavourable to the development of these diseases.

I could point out more than three or four families which have each lost several of their members on attaining to a certain age, but have apparently arrested the invasion of the disease in other individuals of the family by making the sea-coast their permanent residence, and the remainder of the family have passed the critical age without falling victims to the dreaded malady. On the other hand, I know families, who, as long as they resided at the sea, evinced no tendency to pulmonary disease; but within two or three years after removing into the interior, first one member of the family

and then another have become the subjects of phthisis.

Such instances as these, together with the knowledge that phthisis occurs much less frequently on the sea-coast than elsewhere, can leave no doubt that sea-air is inimical to the formation of tubercles: how far it may have the power of retaining them in a dormant state, or of causing their absorption, I have no means of determining; but I have repeatedly seen patients who had been sent to the sea-side, whose delicate appearance was calculated to create uneasiness in the minds of anxious friends, particularly where one or more individuals of the family had died of consumption, whose little short cough, and hurried breathing upon ascending a slight eminence, together with the loss of flesh and strength, constituted a state which could not be viewed without apprehension, although no signs of organic disease could be detected. In these cases I have witnessed the happiest effects from a temporary sojourn at the sea; all these symptoms disappearing, and the patient regaining perfect health.

In cases of tuberculous phthisis, where the utmost that art can accomplish is to retard the progress of the disease and render the life of the patient more tolerable, the sea-coast offers peculiar advantages towards the attainment of these objects; the patient is perpetually inhaling the very substances which are the best calculated to allay irritation, and retard the progress of their disease; they are in the enjoyment of a more equal temperature, the ocean it is well known moderating the summer's heat, and mitigating the rigorous cold of winter; they are also in a great measure placed out of reach of the exhalations of living vegetation, which there can be no doubt exercise an influence over the organs of the human system: thus, hay-fever is said to be occasioned by the pollen of grass, which proves of so irritating a nature to the mucous membrane of the nostrils and air-passages of some individuals, as to produce the catarrhal affection so called; and this opinion as to its origin is corroborated by the fact that persons who are liable to it escape their annual attack by removing to the sea-side. If the pollen of the grass is capable of producing such consequences on some constitutions, is it not probable that similar causes will operate in irritating the pulmonary organs of consumptive persons which are already rendered morbidly sensible by disease? and it therefore becomes the duty of the physician to select such a spot for his patient as presents the greatest combination of advantages; and although the sea-side is the most eligible place in by far the greater number of cases, it is still necessary to exercise some discretion in selecting the place which is best calculated for each individual case; for while one patient is benefited by a mild, moist air, another requires a moderately cool and dry one. Were this more attended to generally, and change of air resorted to at an earlier period, there is every reason to believe that many valuable lives might be prolonged or altogether rescued from an early termination.

I may here mention that other organs besides the lungs appear to be affected by the exhalations of living vegetation. An intelligent farmer told me, that, whenever his home-field was sown with turnips, his family were sure to be affected with diarrhœa or dysentery in the autumn; and it is highly probable that our periodical returns of autumnal cholera may depend upon similar causes. This is a subject well worthy of investigation; and were we made acquainted with the diseases prevalent in each particular district, and the nature of the cultivation, it would probably lead to very important results. What I have already stated respecting the effect of sea-air as being unfavourable to the development of pulmonary tubercles, is equally applicable to scrofulous affections: they are of much rarer occurrence upon the sea-coast than elsewhere; and in the instance of strumous tumors we have ocular demonstration of the power of sea-air to cause their absorption. I have repeatedly witnessed its effect upon patients coming from the interior labouring under these tumors, which have gradually disappeared under the influence of sea-air without any remedial means whatever having been employed; at the same time I am not in the habit of relying on the effects of sea-air alone in these cases; but have for many years used sea-water, both externally and internally, the combined effect of which I have found so efficacious as to leave me no wish to employ any other remedy. My usual mode of proceeding is, to order either cold sea-bathing or warm sea-

water baths, according to the circumstances of the case; and, where the latter are used, the patient should remain an hour in the bath, if it does not produce exhaustion, and a sufficient quantity of sea-water should be taken every morning to act as a moderate purgative. When it is administered to children it is better to mix it with an equal portion of spring water, either warm or cold, according to the taste of the patient: this plan, together with a nutritious animal diet, and proper exercise in the open air, constitute a mode of treatment which I have found infinitely more successful than any other with which I am acquainted.

It would appear, then, that sea-air exerts a power inimical to the development of scrofulous and pulmonary diseases; and that in the former it will frequently effect a cure unaided by other means; and in the case of pulmonary phthisis, there is every reason to believe that it possesses a beneficial influence. Its mode of acting appears to be by imparting a more perfect vitalization to the blood, and giving a healthy stimulus to the glandular and lymphatic systems, and thus preventing those depositions peculiar to scrofulous tumors, and also of the formations of tubercles in the lungs, both of which I believe to originate in the impaired vital functions of these organs.

Having mentioned those diseases over which sea air has the most obvious control, it only remains to notice in a general manner what diseases are the most generally met with on the sea-coast, and from what diseases it enjoys a comparative exemption; amongst the latter may be enumerated fever, both continued and intermittent, the one being extremely rare, and the other almost unknown, except when imported from Holland, or some other place. With regard to the exanthemata, I believe there exists no material difference between the sea-coast and the interior of the country; but I should say that inflammatory complaints, more especially croup and bronchitis, are more frequent at the sea side; and I think the same may be said of hæmorrhages, both of which circumstances tend to strengthen the opinion that pulmonary phthisis originates in impaired vital energy of these organs, and not from an inflammatory or hæmorrhagic tendency. Chronic rheumatism may also be included amongst the complaints more commonly met with at the sea.

In conclusion, I may observe that it is a popular belief that sea-air is more salubrious than that of the interior, and that it possesses the property of conducing to longevity. In the present state of our statistical knowledge it would be difficult to adduce any facts in support of this belief; but my own observations would lead me to believe that our marine towns and villages do present an unusual number of aged persons; and also that the population generally enjoy more robust health than the inhabitants of the interior.

REMARKS UPON CLUB-FOOT, AND ITS CURE.

By Dr. Gustavus Krauss.

(Read before the London Medical Society, on the 1st of April, 1839.)

[*For the Medical Gazette.*]

At the meeting of the 24th of September the question was raised, if it was possible to cure T. Williamson, a lad of about 18, affected with congenital varus of the worst kind. While I had offered to operate for this congenital distortion, Dr. Little thought it more prudent not to attempt a cure, on account of the high degree of the deformity, and the bony excrescences of the tarsal bones.

I beg to present this paper to the Society, not only to lay down the reasons that induced me to offer to operate on this patient, but also to give, in general, some of my views on this subject.

The anatomy of club-foot is intimately connected with its cure. As the extent of this paper does not allow me to enter into the particulars, I will remark but briefly, that I consider the displacement of the astragalus as one of the general and characteristic symptoms of varus, the ascertainment of which, whether it be primary or secondary, is highly important for the cure of varus, as it makes the condition of the two principal actions of the mechanical instrument, and as it is principally the deviation of the astragalus which often renders the cure of varus difficult, as the mechanical power cannot directly act against that bone. It deserves notice, that the superior articulating surface of the astragalus, on account

of its deviation, frequently becomes changed into two surfaces, running together in an obtuse angle, corresponding to the juncture of the articulating surfaces of the tibia and fibula, into which juncture the astragalus gets like a wedge.

Through the rotation of the astragalus there is formed a new articulating surface of the tibia, which is more hollow, and is situated more outwards and forwards. This circumstance is of great influence in the cure of varus, as in consequence of it, even when the foot is brought round as much as possible to its natural shape, the longitudinal median line of the foot, though it is parallel with the longitudinal median line of leg—that is, though continued over the dorsum of the foot—still lies more or less outwards than the latter; as I have observed particularly in cases of congenital varus, which I have cured in more advanced age.

If we consider that the astragalus frequently describes in the rotation round the longitudinal axis of the foot about a quarter of a circle (as its round head, in the natural position, placed on the inside of the foot, becomes situated outwards in a line drawn through the external malleolus, parallel with the ground and the outside of the leg); and if we further consider that the astragalus undergoes, besides, a rotation round its transverse axis, and is considerably changed in shape in consequence of its displacement; I ask, if we can then agree with Scarpa, that the displacement of the astragalus, if it exists, is but small in comparison with the displacement of the other bones of the tarsus and metatarsus?

The cause of club-foot is not yet quite so plain, and confined within such distinct limits, as Dr. Little asserts; and though I believe that most cases of club-foot originate through muscular contraction, I still think that the question is not yet so matured that we can deny the possibility of mechanical influence acting in the uterus on the limbs of the fœtus. I, at least, do not consider the question, whether club-foot in the uterus originates only through muscular contraction or not, as quite determined.

Dr. Stromeyer has the merit of having brought into general application the division of the tendons, as a wonderful means of curing certain deformities. The hundreds who are already indebted to this simple operation for the recovery of the natural shape and use of their limbs, would still have dragged on their life as cripples but for his efforts. But it does not follow that Stromeyer's methods and principles are too perfect to admit amendment: on the contrary, I believe (and I have the intimate conviction founded on experience) that even after the publication of his book, there remained much to be done in the vast field of operative orthopædy.

Dividing tendons, notwithstanding it is a simple operation, is to be performed according to distinct rules.

The shape of the tendons, as well as their relation to the parts in the vicinity, are not always the same. This alters the conditions which are to be fulfilled in order to perform the division of the tendons in the simplest and safest manner; and it is therefore evident that it is not indifferent whether we use a concave or a convex knife, as Dr. Little does.

Stromeyer sets out from the principle, that division of the tendons is more easily and quickly performed with a greater part of the cutting edge of the knife than with its point: he therefore makes two punctures of the skin—one for introducing the knife, and another opposite where the point of the knife comes out, and uses a long fistula knife (sometimes a convex and sometimes a concave one), but without giving any rules for using the one or the other.

Though I think that it is not of much consequence to make two incisions or punctures instead of one only, I still consider Stromeyer's method of dividing tendons as by far not generally applicable. The following is to be observed in regard of dividing tendons with two punctures of the skin, and in regard of the choice of a concave or convex fistula knife:—

1st. The common fistula knife can only be used with advantage if the tendon that is to be divided is prominent, and if the part to which it belongs is of small volume, as it is the case with the tendo Achillis; because, if the handle of the knife cannot be depressed, its point would penetrate too deep, the skin covering the tendon would be injured, and the division would be difficult, if not altogether impossible.

2d. If the tendon is prominent, but the skin covering it is thin and tight, division with a convex fistula knife is

not to be recommended, by reason of the danger of injuring the skin covering the tendon.

3d. The division with a concave fistula knife can be practicable under the conditions mentioned above, as preventing the use of a convex fistula knife.

However, it is also desirable, for the use of a concave fistula knife, that the skin covering the tendon be not too tight.

4th. If a tendon is not prominent, and if it is not of a round but more of a flat and irregular shape, it is difficult, in using the concave fistula knife, to go at once round the whole of the tendon, as, at the same time, care must be taken not to penetrate too deep with the knife into the part.

If, therefore, a tendon is not prominent, though easy to be felt, and if its inner side (*i. e.* the surface directed towards the internal parts) is more flat, a convex *tenotome*, with a straight back, is preferable, if other circumstances allow it.

This particularly is applicable for dividing the tendo Achillis, if it is not prominent, as sometimes happens in grown persons, and frequently in children. Under those circumstances, it is required to press down the skin on the tendons inside with the back of the knife, in order to introduce the knife deep enough to pass through the whole of the tendon. A fistula knife would not be convenient for this purpose, and the division with a common convex *tenotome*, like the one used by Duval, is easily accomplished.

5th. Dr. Stromeyer's fistula knife has the disadvantage that its blade is too long, which renders its guidance more difficult and less safe, and makes the knife, by its thinness, liable to breaking.

Dr. Little does not quite follow Stromeyer's method of operating, as he generally avoids making a second puncture of the skin, using for the division of the tendo Achillis sometimes a concave and sometimes a convex knife. A concave knife is, however, improper for dividing the tendo Achillis, particularly if one does not choose Stromeyer's method of making two punctures of the skin, for the following reasons:—

1st. The front surface of the tendo Achillis is flat, and its back surface convex; the shape of the knife has to correspond with the shape of the tendon: this is only the case with a convex, but not with a concave knife.

2d. In dividing the tendo Achillis, even with a convex knife, the part of the tendon that corresponds to its greatest convexity becomes divided the last, as attentive observations have shewn me. In dividing the tendo Achillis, I have often felt the cutting part of the knife distinctly as lying immediately under the skin on the tendon's outside and inside, and was astonished at the division not being accomplished, till I recognized the obstacle—namely, the thin, small, undivided portion of the tendon, corresponding to its greatest convexity; and I soon finished the division by sawing movements towards the above-mentioned convexity.

It is evident how much more difficult a concave knife will render the division of the tendo Achillis in this respect.

Dr. Little introduces the blade of the knife flat, and then rotating it through the quarter of a circle, directs its cutting edge towards the tendon, in order to divide it by sawing movements.

The performance of the operation in this way is less difficult, as one is more certain that the knife will not leave a portion of the tendon undivided, even if one has less practice in this operation. But the wound is not a simple puncture and incision, as the parts get more injured through the turning of the blade of the knife round its longitudinal axis, which is of so much importance as to induce me to reject this method of operating.

For dividing a tendon, as well as for the performance of other operations, the position of the patient is important.

The parts to be operated on should be kept quiet, and in a position in which the operator can examine with ease, and can follow the movements of the knife.

It is evidently inconvenient to place the patient in a chair for dividing the tendo Achillis, after Stromeyer's example, which is recommended by Dr. Little, as it is against one of the first conditions to be fulfilled, namely, to bring the back surface of the leg in front of the operator.

After the operation, the surgeon must examine accurately if every thing, of which division is required, is divided; for which purpose the sitting position of the patient is by no means proper. This may be proved by the 4th of Dr. Little's

contracted feet cases (Lancet, May 20th, 1838) in which, on the eighteenth day after the first division of the tendo Achillis, and after fruitless attempts made till this time to extend the foot, it was required to divide a band, which remained undivided in the first operation; and also by the 5th case (Lancet, June 22d), in which Dr. Little, on the second day after the first operation, divided a small string, which he left undivided on examining the limb. Supplementary operations of this kind may prove dangerous.

Through immediate and accurate examination after the operation, I have found that the characteristic noise, heard in dividing the tendo Achillis, is not a proof that the whole of the tendon is divided—in contradiction to Dr. Little's assertion, "tum certo totus tendo conscissus est."

Though the division of the tendons produces in general but little reaction on the general system, it is still prudent to keep the patient on an antiphlogistic regimen and diet for about two days, especially nervous patients, in whom muscular spasms, caused by the operation, might favour inflammation of the wound. Under these circumstances I not only remove the patient from the excitement of light and society, but I also think that it is more prudent not to allow either meat or fermented drinks.

The mechanical part of the treatment of club-foot is by far the most difficult. It is especially required to have convenient apparatus to be applied after the operation.

Dr. Little has presented to this society the Stromeyrian instruments, which he has adopted — Stromeyer's foot-board, and Scarpa's modified shoe, which latter is used by Stromeyer for assisting the first attempts to walk.

I must remark that it is unnecessary to have two different instruments for the cure of club-foot, as a convenient one must serve for making the first attempts to walk as well as Scarpa's shoe, which cannot be used long for this purpose, and is soon to be replaced by a common boot.

Stromeyer's apparatus, though it acts in most of the necessary directions, has the following faults:—

1st. Simple actions are performed by a too complicated mechanism.

2d. The mode of bringing the instrument into action is deficient.

3d. A convenient construction for fastening the foot on the foot-board is wanting.

4th. The instrument is not convenient for straightening the curve, which the the foot forms in varus.

5th. It acts not through an elastic, but only through a fixed pressure.

6th. It allows neither walking or standing.

I use for the cure of club-foot the instrument of my own, which has not been made without much trouble and repeated changes; and though it may appear rather complicated on the first appearance, I trust that in its effects it is the most simple that has yet been invented.

If I understood Dr. Little rightly, he now but seldom uses Stromeyer's apparatus, applying from the beginning Scarpa's shoe, asserting that it is sufficient in seven out of eight cases of club-feet.

According to my experience and intimate conviction, I consider that Scarpa's shoe is altogether improper, even as a mechanism, for the lateral inclination of the foot is wanting.

Dr. Little says, in his dissertation, "De talipede varo*," that the weakened limb is to be sustained for some time in an instrument similar to that constructed by Scarpa, lest the patient should hurt the part by being too eager to walk.

On this I must remark, that in the treatment of varus it is but a secondary point to have an instrument in order to prevent injury of the foot; but the principal object is, to provide the patient with a shoe that renders walking possible. Scarpa's instrument is not fit for this purpose, for the reasons mentioned.

Besides a great desire to walk, even to such a degree that injury of the foot may be apprehended, is sometimes to be observed in individuals cured of pes equinus, but seldom or never in individuals cured of varus.

Dr. Little praises the advantage of air-cushions for the cure of club-foot; and I can also bear testimony to their usefulness, as even in 1836 I brought into practice the idea of applying air-cushions in order to moderate the pressure of mechanical apparatus, in the

* "Debile membrum in aliquod tempus apta machina ad instar Scarpanæ constructa sustinetur, ne ægrotus nimia eundi cupiditate captus pedem lædat."

Orthopædic Institution of the celebrated Heine, at Schereningen.

Returning to the question, how far the higher degrees of varus admit of cure, I must first mention the difference that exists between congenital and non-congenital varus.

There can be no doubt that a deformity that is generally cured in a few weeks, must be materially different from another which is similar in appearance, but which generally requires as many months for its cure.

In non-congenital varus, displacement and change of shape of the bones of the foot do not arrive to such a high degree, the ligaments are looser, and the deformity is mostly maintained through the contraction of certain muscles; and hence follows the facility of curing non-congenital, and the difficulty of curing congenital varus. Dr. Little was therefore not correct in saying, "I therefore think that accidental varus does not differ much from connate varus*."

In that respect we ought to be more precise in naming the various kinds of club-foot, which is not observed by Stromeyer, as he relates under the head "Club-foot" very different cases of congenital varus. Varus, originating after birth, often forms a transition from pes equirius to varus, and is then to be called pes equinus varus, pied equin varus (Held. Duval.).

The cure of non-congenital varus is, in general, possible up to the age which permits the division of the tendons; while not only the age and constitution of the patient, but also the degree of displacement and change of shape of the tarsal bones, and the degree of rigidity of the ligaments, make the conditions of curing congenital varus.

Dr. Little lays great importance on bony vegetations, regarding them as often preventing the cure of club-foot. Yet those bony vegetations are very seldom a hindrance, if we except that the articulating surfaces, which, through the displacement of the bones, do not enjoy their natural functions, partly lose their polish, and become rougher.

This, however, does not prevent the cure of varus, and we must remember the "vis medicatrix naturæ," which so powerfully assists the orthopædist in polishing the rough articulating surfaces, as it allows under other circumstances the formation of new articulations.

I do not believe that every congenital varus is to be cured, and do not think, with Dr. Little, that continued mechanical application would at last overcome every deformity of the foot; only in general, I say, that cases of congenital varus are very seldom to be met with which are incurable up to the age of 30, if the constitution of the patient is in favour of the treatment, and if he assist it with determination and patience.

I have had opportunities of examining in Germany, France, and England, a number of cases of club-foot; I must, however, confess that I have met with no case of congenital club-foot up to the age of 30 of which I would not have attempted the cure under the last-mentioned circumstances.

Though I remain within the limits of moderation as regards the highly important question of the possibility of curing aggravated cases of varus, a great difference will be observed in comparing my statement with Stromeyer's observations and cures, as the cases of congenital club-foot cured by Stromeyer, and related in his recent publication, are mostly relative to children of one, two, and five years old, containing but one case of congenital varus in a child of nine years of age, whose deformity was certainly but of a slight degree, as it walked with Scarpa's shoe in 28 days after the division of the tendo Achillis.

Without misapprehending for a single moment the merits of a man to whom we are so highly indebted, I must say, in the interest of science, that the means to cure aggravated cases of congenital varus consist in a suitable mechanical treatment, and that I would not undertake to perform the cure of an aggravated case of congenital varus with Stromeyer's instrument.

Dr. Little presented to this society, at the meeting of the 24th of September, a case of congenital varus club-foot, which was, as he repeatedly stated, the most difficult he ever cured. It was a young man about 20 years old, affected with a club foot on one side only. In eight or nine weeks after the tendo Achillis had been divided, the foot had nearly resumed its natural shape, as is shewn by the plaster cast taken at that time, and presented by Dr. Little to the society.

* "Ego igitur censeo, varum acquisitum, haud ita a vero varo differre."

Ulcerations taking place in consequence of the pressure of the instrument, afterwards retarded the completion of the cure for five months.

It is evident that a case of congenital varus that is brought nearly to its natural shape in eight or nine weeks after the division of the tendo Achillis, even by a rather imperfect mechanical treatment (Dr. Little did not then make use of the air-cushions), is not one of the worst kind.

In order to prove by facts the preceding remarks, allow me to present to the society several aggravated cases of congenital varus, in which a cure has been effected.

I.—John Stirling, ætatis 23, affected with congenital club-foot. January 3d, 1838, division of both the tendons of Achilles. More than three months were required to restore the deformed feet so far that they formed a right angle with the leg, and the foot being flat on the ground, the leg stood perpendicular on the latter. A plaster cast of the left foot, taken at the end of July, shews the shape of this foot at that time, when Stirling was able to walk two miles a day. He now walks five or six miles a day without inconvenience. Comparing his feet now with the plaster cast from the end of July, we find that the shape of the feet has been scarcely improved since that time, owing to the neglect of the mechanical treatment from the time Stirling commenced working as a shoemaker.

II.—John Burns, aged 28 years, affected with congenital club-foot (varus) of a very high degree. March 3d, 1838, division of both the tendons of Achilles. The division of the plantar fascia took place subsequently. On account of the rigidity of the ligaments, the patient's advanced age, and his poverty, the cure made but slow progress, especially as he was compelled to get his living by working during the time of the treatment. However, after overcoming the greatest difficulties, the deformity is now (a year after beginning the treatment) so far relieved as to enable Burns to stand on the soles of his feet, and to begin walking.

III.—G. B., 15 years of age, affected with congenital varus of both feet. The deformity was distinguished by an extraordinary rigidity of the ligaments. In the middle of September 1838 the mechanical treatment was begun. October 17th, division of both tendons of Achilles. January 4th, 1839, division of the tendons of both the tibiales antici muscles. The cure is now (*i. e.* six months after beginning the treatment) so far accomplished as to allow the patient to stand flat on the soles of his feet, and to begin to walk.

As I did not encounter great difficulty in exhibiting some of my patients, I beg to present three other cases of club-foot, cured by dividing the tendo Achillis, though they do not immediately illustrate the object of my paper.

I.—Maria, aged 12 years (daughter of Mr. Stakable, porter at the Parliament house), affected with pes equinus since her third year, arising without any evident cause. Division of the tendo Achillis, May 20, 1838. In a fortnight afterwards the foot was brought up towards the leg to an angle of about 75°. The patient now walks several miles a day without the least inconvenience or pain.

II.—George Bocock, 18 years of age, affected since his third year with pes equinus of the highest degree, in consequence of abscesses in the calf of the leg. December 4th, 1837, division of the tendo Achillis. He now walks from 15 to 18 miles a day on the sole of his foot without pain.

III. —— Woodthorpe, inhabitant of St. Sepulchre's workhouse, 38 years of age, affected since his fifth year with hemiplegia, connected with contractions of the muscles of the calf, which produced pes equinus. May 9th, division of the tendo Achillis. He now walks 5 or 6 miles a day on the sole of his foot without any sensation of pain, while, previous to the operation, he could scarcely walk half a mile without great trouble and pain.

From the aggravated cases of congenital varus which I have presented to the society, we can best conclude whether the deformity of Williamson is to be cured or not, as this case is analogous to the cases related.

F. Williamson, the lad in question, about 18 years of age, was born with varus of both feet. Though of slender stature, he is of healthy constitution. Displacement and change of shape of the tarsal bones have reached in Williamson the highest degree. The rigidity of the ligaments is considerable, and will render the cure very difficult. However, attentive examination of the

deformity has shewn me that there is some movement in the ankle-joint, and that there can be no more question of bony vegetations than in the generality of cases of congenital varus.

The case of Williamson is similar to the case of Burns—*i. e.* the displacement of the bones of the tarsus has not reached a higher degree in the case of Williamson, but the ligaments are perhaps more rigid in the latter case, (similar to the case of G. B.)

The preceding remarks are, I think, sufficient to justify me, and to prove that I was supported by experience when I offered to operate for the cure of one of the highest degrees of congenital varus.

The question, I think, is important: it does not regard individual opinions; it regards principles which run through the whole doctrine of club-foot, from its anatomy to its cure.

These considerations may lead us further: they may shew how much public protection and benevolence is wanting for the numerous unfortunate beings labouring under deformities. General hospitals are not proper for their treatment, as not only appears from the nature of the object, but as experience has proved; the truth of this statement cannot but be recognized by the liberal feelings of the profession.

MEDICAL GAZETTE.

Saturday, June 1, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL SERVANTS.

WHEN Sir Robert Walpole had retired from public life, he desired his son, Horace, to read him any thing but history, "for that," he said, "I know to be false." He probably preferred those masterpieces which, though nominally works of fiction, were really full of truth very thinly disguised. In like manner we have sometimes imagined that a reader tired of the inflated speeches, absurd scandal, and sham news, which constitute a great part of ordinary journals, might turn with relief to the advertisements, in order to discover "the very age and body of the time, its form and pressure." It is true that he would find bold fictions enough in the chequered columns of his choice; but they would be less apt to deceive him than the sugared fallacies of Lord John This, or Sir Harry That. After deducting, too, the rhetorical and poetical flourishes of certain announcements, much solid instruction would remain, the text for long and deep meditation; and the skilful critic might ascertain the domestic history of the nation in the registers of its wants and wishes.

In the earlier stages of civilization, mental culture is rare, and the few who possess it are eagerly sought for; their value being, of course, in proportion to their scarcity. This is the golden age, in the most literal sense of the word, for the members of the learned professions. They have to encounter great difficulties in attaining their station, but when attained it is respected *. At present the station is easily got, and little thought of. The difference is like that between ascending Mont Blanc and Primrose Hill. In this age of rapid changes, a few years make a striking alteration; and we have no doubt that a comparison between the journals of 1820 and the present time, would demonstrate how much more common the higher grades of education have become, by shewing how vast has been the increase in the number of lawyers, doctors, clergymen, tutors, and governesses, who offer their services to the public, and by the offer shew their superabundance.

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* The benefit of clergy, or exemption from the penalty of death, for the first commission of some offences, granted to those who could read a verse of the Psalms in Latin, was doubtlessly founded in part on the unwillingness to lose a man of rare acquirements. A person was forgiven for not knowing the distinction between *meum* and *tuum*, if he knew how to decline them.

We have been led into this train of reflection by two singular advertisements which have appeared within a week, in which medical practitioners offer to go as servants. We copy one of them for the instruction of our readers, some of whom will, perhaps, be more surprised at it than we were :—

"*To invalids and gentlemen.*—Wanted, by a young man, a member of the medical profession, a situation to attend upon or travel with invalids or gentlemen. Would have no objection to perform the duties of valet. Can give the most satisfactory references as to character, ability," &c.—*Times*, May 27, 1839.

Perhaps, indeed, those who have thoroughly digested our articles on medical competition, will rather be astonished that this method of escaping from the lower walks of our profession should only just have been hit upon. They will be inclined to illustrate it by that epigram in the Anthologia, where a professor of philosophy, raised by the Emperor Julian to the station of prefect, condoles with himself on his elevation. He laments the vulgar ambition which could induce him to prefer the silver chair of the governor to the ethereal seat of the philosopher, and cries out with curious antithesis, "Come! ascend downwards, for now you have descended upwards*." The advertiser, on the contrary, if he should succeed, as we hope he may, in the object of his humble ambition, will ascend downwards, as the epigrammatist phrases it, and, like Antæus, will feel himself strongest when he has come down to the ground.

There is a story in the books, bearing the most evident marks of authenticity, of an Irishman, who, having come to London, was desirous of a ride in a sedan chair. His friends accordingly gratified him by removing the top, seat, and bottom of the sedan, and pushing him along for the required distance; on which he observed, that if it was not for the name of the thing, one might as well walk. Now this anecdote, besides its literal meaning, clearly figures the state of those who, though nominally elevated above the commonalty, in reality are exposed to the same hardships, and "if it was not for the name of the thing, might just as well walk." In fact, it is far better to walk, than to ride only in pretence, receiving infinite pushes all the while; and we have no doubt that the day on which the advertiser exchanges the solitary confinement of a medical assistant for the freedom of a valet, with kind looks and human sympathies around him, will be the happiest of his life. Still, this is not the kind of preferment usually held out as an encouragement to those who enter upon physic; and we therefore mention the fact as a warning to those parents who, with inadequate means, determine to thrust their sons into our profession.

* Δευρ' αναβηθι κατω, νυν γαρ ανω κατεβης.

LYING-IN HOSPITALS.

In the progress of human institutions is seems often to happen, that after they have attained a certain degree of perfection, all further improvement is difficult or impossible; and unless their stationary condition is desirable, it becomes necessary to reconstruct them, using, of course, as many of the old materials as can be made available, just as people do when they pull down tottering houses. This rule applies to small things as to great, and it may be as necessary to discontinue a hospital as an Assembly or a Convocation.

Lying-in hospitals were first set on foot in this country less than a century ago. The advantages proposed were twofold; the first being that of offering an asylum to indigent

women in the hour of their greatest need; the second, that of affording an excellent school for the instruction of practitioners. We believe, however, that it seldom happens that those in abject distress succeed in obtaining letters for lying-in hospitals, as this requires that the links which connect them with the upper classes of society should not have been utterly snapped asunder. Hence it commonly occurs that those who enter these establishments are pretty nearly of the same class as those who are treated at dispensaries. Now, in the obstetrical practice of dispensaries, the institution supplies a midwife and medicine; a friend or relation is the nurse, or occasionally one is hired; and, if necessary, some society sends linen for the mother and child; and all goes on comfortably. If our facts, therefore, be correct, the majority of the hospital cases might easily be transferred to the care of the dispensaries, without loss to the patients.

But there is a class far below this, of women who seldom obtain admission to hospitals, but are delivered in parish workhouses, or perhaps in their own wretched abodes, under great disadvantages. For these it is most desirable that hospital relief be continued; but the painful reply is, that the mortality is greater in lying-in hospitals than among the poor attended at their own homes. It might be urged, nevertheless, if the question were fully discussed, that though the deaths in the hospitals are more numerous than among an equal number of dispensary patients, they are possibly not greater than among those women who are *beneath* dispensary advice. But, in the first place, this is at least doubtful; and even if true, it would be better to effect a greater diminution of mortality among the neglected class, by giving them dispensary letters, than a smaller one by admitting them into a hospital; supposing, of course, the dispensaries to be improved so as to supply these indigent women with all the comforts of which they stand in need.

Let us endeavour to investigate the question a little more fully by the help of the *méthode numérique*. If we take an extreme instance, we shall find that for many years the mortality in the Maternité at Paris was 1 in 25. This extraordinary destruction was not produced by famine, not want of medicine, nor too much of it, nor lack of good obstetrical aid. It seems to have arisen chiefly from crowding the women together, two or three having, at one time, been put into a bed. The puerperal atmosphere formed by assembling hundreds of women in one building may also have contributed to this result, as well as the patients not being selected from a tolerably comfortable class, as in England, but taken from among the most needy in the metropolis; the hospital supplying in a great measure the place of the English workhouse. Whatever were the causes the mortality is frightful.

In British hospitals the mortality has been about 1 in 80; while in private and dispensary practice, it would appear from the tables in Dr. Merriman's Synopsis to vary from 1 in 100 to 1 in 200. With regard to one of our institutions, the Westminster General Lying-in Hospital, Dr. Ferguson, in his late useful work*, accounts in part for its mortality from its situation. He says, "Its locality, rather below the level of the river, and surrounded by a mesh-work of open sewers fifteen hundred feet in extent, receiving the filth of Lambeth,

* Essays on the most important Diseases of Women. By Robert Ferguson, M.D. Part 1, Puerperal Fever.

and some not thirty feet from the wards of the institution, may account for its unhealthiness."

Whether the hospital went to the sewers, or the sewers came to the hospital, does not appear, though we are almost inclined to suspect the former, as the hospital was rebuilt in a new spot not many years since.

But whether lying-in hospitals owe their superior mortality to a single disadvantage, or to a combination of several, the painful fact is but too certain. Our readers will recollect that, in an article on Public Hygiene, about two years ago, we came to the mortifying conclusion that lying-in hospitals do the reverse of saving life. The result, indeed, was clear enough on a bare inspection of Dr. Merriman's tables; but we believe that we were the first to give it so plainly in words. Dr. Ferguson will prove a strong ally in the cause of truth. In speaking of the fourth, or complicated form of puerperal fever, he says that when it is prevalent, the best thing that can be done is to shut up the hospitals; and adds his belief that the single chamber of the pauper is more wholesome than the spacious ward of the hospital patient. In another place he says of puerperal fever, that it is most fatal in hospitals, and that "neither the skill, the comfort, the careful dieting, and even the assiduous nursing, which are lavished on its inmates, diminish the mortality to a level with that attendant on the out-door population ..... A lying-in hospital should consist either of a series of cottages, or its spacious wards should contain very few patients."

It appears from the first table at the end of the work, that the hospital was closed in February 1838, and again from April to November—the only efficient remedy for its ills.

The second object for which lying-in hospitals were founded—namely, that of affording instruction—is, no doubt, worth attaining, when attainable without injury to their patients; but it would be a work of supererogation to prove formally that hospitals must not be kept up as schools, at the expense of patients' lives.

It must be confessed, that the difficulties which spring up even in the practice of benevolence are sometimes almost sufficient to give one pause, and make one exclaim with an elegant French writer*, "*Ah! qu'il est difficile de faire le bien, il n'y a que le mal de facile à faire!*"

The remedies are obvious enough. A series of cottages might be built according to Dr. Ferguson's suggestions; or if this should seem too burdensome on a large scale, and even English philanthropy should at first succumb under the load, our dispensaries might be improved, so that the comforts now obtained at hospitals might be bestowed upon the patients visited at home. The scanty funds of these institutions are now, indeed, quite inadequate to this additional drain; but were it once known that such assistance is required, who can doubt that it would be freely given?

ROYAL COLLEGE OF SURGEONS IN LONDON.

STUDENTSHIPS IN ANATOMY.

Ordinance.

1. Two studentships in human and comparative anatomy shall be instituted, to be held by each student for the term of three years, at a salary of one hundred pounds per annum.

2. Candidates shall be members of the College, under 26 years of age.

3. The Council shall determine annually whether one or more of such appointments shall take place during the current year, and shall notify its resolution by public advertisement.

4. The appointment shall be made in the month of June, or as soon after as possible.

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* St. Pierre.

5. The students shall be subject to such duties and restrictions as the Council shall from time to time direct; and in case of misconduct shall be liable to dismissal.

Regulations.

1. A Report shall be made to the Council, in the month of March, of the number of vacancies, or expected vacancies, in these studentships; whereupon the Council shall determine whether any, and what number, of such vacancies shall be filled up, and shall direct the necessary advertisements.

2. Candidates shall transmit to the secretary, on or before the 1st of May, their applications for the appointment, together with certificates of general good character and of fair acquirements in general learning, signed by two qualified members of the medical profession.

3. A meeting of the museum committee shall be held as soon after the 1st of May as conveniently may be, at which the applications of the persons offering themselves shall be examined, and, if approved, they shall be admitted as candidates.

4. The museum committee shall determine the mode of ascertaining the merits of the several candidates, and shall, after due investigation, report to the Council which of the candidates in their opinion possesses the highest merit.

5. Students shall attend in the museum daily (Sundays excepted) from ten till four o'clock, and shall be entirely under the direction of the conservators, who shall employ them as they shall see fit; and who shall have the power of granting leave of absence when they think proper.

6. In case of misconduct or neglect, the students shall be liable to be dismissed at any time by the president and vice-presidents, who are to report such dismissal, with the grounds thereof, to the next meeting of the Council.

EDMUND BELFOUR, Secretary.

May 10th, 1839.

*** Upon the present occasion, the applications and certificates must be sent in by the 24th of June next.

ABERDEEN MEDICAL SCHOOL.

WE learn that in consequence of a misunderstanding between King's and Marischal Colleges, under whose joint superintendence the medical school of Aberdeen has hithertoo been conducted, there will henceforth be two medical schools in that place; one under the patronage of each college. A question has been raised by King's College as to the right of Marischal College to grant medical degress. Surely this discussion might be satisfactorily terminated, if the latter body would publish the charter by virtue of which those degrees are conferred.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 23, 1839.

Robt. Crowther, Manchester.—Francis Spencer, Chippenham. — Robert Hole, Timberscombe, Somerset.—James Peterkin, 25, Cleveland Street, London.—Hen. Raven, Litcham.—Horace Purdy, Norfolk.—Edward Halford, Alveston. — James Bennett, Plymouth.—Oliver Mauger, Guernsey. —Thomas Lewis, Carmarthen.—John Bredall, Tavistock.—Wm Skinner, Sheffield.—John Francis Steedman, Dublin.—Wm. White, Manchester. James Bedingfield Bryan, Stowmarket.—Henry John Wolstenholme, Holywell, Flintshire, N.W.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *May* 28, 1839.

Abscess	1	Hooping Cough	6
Age and Debility	35	Inflammation	16
Apoplexy	5	Bowels & Stomach	4
Asthma	5	Brain	1
Childbirth	4	Lungs and Pleura	4
Consumption	32	Insanity	2
Convulsions	19	Jaundice	2
Dentition	5	Measles	13
Diarrhœa	1	Mortification	2
Dropsy	11	Paralysis	2
Dropsy in the Brain	2	Rheumatism	1
Dysentery	1	Small-pox	2
Epilepsy	2	Sore Throat and Quinsey	2
Fever	7	Unknown Causes	83
Fever, Scarlet	8		
Fever, Typhus	3	Casualties	5
Heart, diseased	1		

Increase of Burials, as compared with the preceding week 124

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

May.	THERMOMETER.	BAROMETER.
Thursday . 23	from 38 to 58	30·04 to 29·87
Friday . . 24	42 52	29·84 29·92
Saturday . 25	39 53	29·99 30·06
Sunday . . 26	29 5 62	30·08 30·10
Monday . . 27	33 65	30·12 30·13
Tuesday . . 28	38 61	30·13 30·14
Wednesday 29	37 68	30·13 30·06

Winds, N.E. and S.E.

Generally clear, except the 24th, when rain fell.

Rain fallen, ·025 of an inch.

CHARLES HENRY ADAMS.

ERRATA.—In Mr. Aikin's (not Aiken) paper, No. 598, p. 272, col. 2, line 8, *for* "integrity," *read* "intensity;" line 14, *for* "exanthema," *read* "exanthemata." Page 273, col. 2, line 56, *for* "guarantee," *read* "quarantine."

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JUNE 8, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Stone in the bladder.—Calculi are found in the bladder more frequently than in any other situation. Nor is this surprising, because if we allow that the nuclei are formed elsewhere, in the kidneys, for instance, still they soon are sent into the bladder, where they increase by the gradual deposition of more calculous matter. But even the first deposit of calculous matter may take place in the bladder, and more especially if there should be accidentally any foreign substance introduced into the bladder, and which might serve as a nucleus for the first deposit. Here are a great variety of cystic calculi. In many of the instances of cystic calculi the bladder becomes thickened, and often the stones are contained in cysts; and sometimes they are so compressed by each other when there are several, that they assume various forms and figures, according to the nature and extent of the pressure. In plates 3 and 4 of Dr. Marcet's work, you observe very good delineations of the above facts. In the first, as you see, the cavity of the bladder is almost completely filled by a large calculus; and you may also observe that the coats of the bladder are very much thickened. In the 4th plate several calculi are represented lodged in distinct cysts, formed in the substance of the bladder, between the fasciculi of the muscular coat, and pressing against others lodged in the contiguous rugæ.

Symptoms.—Stone, no doubt, must have prevailed from a very early period, and we find the symptoms of this disease described by the earliest writers of any authority. Thus we find Aretæus not only pointing out the various localities or situations of urinary calculi, but he even asserts what is allowed to be most probable in the present day, the *renal* origin of all urinary concretions, which all, he says, begin in the kidneys only, and pass as sand into the ureters, &c., and thus become the essence and sign of the disease*. Hippocrates also mentions calculi, and states that sandy urine indicates a stone either in the bladder or kidneys†. Celsus gives a tolerably accurate detail of the symptoms of stone. He states calculi may be known by the following symptoms:—The urine is voided with difficulty and slowly, sometimes by drops, and involuntarily, and is sandy; and in some cases blood, or something bloody, or pus, is voided with it. Sometimes a particular position, &c. is necessary in order to evacuate the bladder. Some, he says, void the urine more readily in the erect posture; some lying down on their backs; some inclined to one side, and ease the pain by stretching the yard. There is also a sense of weight in the part, which is aggravated by running, and every kind of exercise; and in many cases the pain is so great that the victims enfold

* Εγγίγνονται δὲ τοῖσι Νεφροῖσι μοῦνον, ἀλλὰ τοῖσι διαπύροισι. και δέ ἕδρην γαρ ἐν τοῖσι Οὐρητῆρσι οὐκ ἴσχουσι οι Λίθοι, ἀλλὰ τα ψαμμία συν τοῖσι Οὐρητῆρσι κάτω διαπλέει, τάπερ κάι σημῆια καὶ ὕλη τοῦ πάθεος γιγνεται.—*De Sig. et Caus. Diut. Morb.* lib. ii. cap. 3.

† Ὁκόσοισιν ἐν τῶ ὄυρω ψαμμώδεα ὑφίσις ται, τουτέοισι ἡ κυστις λιθιᾶ, ἢ νεφροι.—*Aph.* iv. 79.

their legs, changing and again refolding them, with the hope of obtaining ease* .

Gravel and gout are intimately associated; and Sydenham, who was a martyr to the latter, and also suffered much from the former affection, which, he says, is generally the exclusive companion of gout†, has given a very feeling description of calculus. He states, that in 1660 he was seized with a more violent and longer protracted paroxysm of gout than usual. After lying for two months, in the summer, upon a soft bed, towards the end of the fit he began to feel a dull and heavy pain in the left kidney, and occasionally but rarely in the right; and the pain in the kidneys remained even after the recovery from gout, which caused him to fear a stone, although the pain was not very acute, for he had not yet had a nephritic attack, which is attended with violent pain, stretching itself through the passage of the ureters towards the bladder, with violent vomiting. " In the winter of 1676," he continues, " presently after the breaking of a violent frost, when I had walked much and a long time, I immediately made water mixed with blood, and so I did as often as I walked much, or rode in a coach in paved streets, though the horses went gently; but this did not befal me how far soever I travelled in great roads that were not paved; the urine that I voided then, though terrible in appearance as passed, and almost like pure blood, in a short time the blood clotting and subsiding to the bottom, the urine assumed its own natural appearance.‡"

We have already observed that calculi, though perhaps originating in the kidneys, may leave their original position and occupy a different one: hence the symptoms will vary somewhat, according to the situation occupied by the calculus. Therefore we shall now proceed to consider the symptoms which indicate the formation and presence of stone in each particular situation.

Stone in the kidney.—Calculi may form in the kidney, and gradually increase, without even occasioning any very urgent or remarkable symptoms, by which we could be led to suspect the disease. If, however, it continue to increase, it may excite wasting, with inflammation and subsequent suppuration of the kidney, there is generally long protracted pain in the region of the kidney, attended with a discharge of purulent urine, and not unfrequently severe and copious hæmorrhage. Yet it is surprising that cases of this description may go on to a very great length without exhibiting any characteristic symptoms. The patient from whom the kidney delineated in this plate i. of Dr. Marcet's work was taken, " died of hydrothorax, without any symptom having occurred," says the Doctor, " which could lead me to suppose that there was any disease in the urinary organs."

The ancients were aware of the fact, that the symptoms varied with the situation of the calculus; and Aretæus details the specific symptoms attending stone in its different situations. He says, " if there be a large calculus in the kidney, the patient suffers pains in the loins, especially about the psoæ muscles, extending to the ribs; and this," he continues, " deceives many, who mistake it for pleurisy; a sense of weight in the hips; the back cannot be easily bent, and it is brought forwards not without trouble. There are torsions, with pain, and a sense of weight and twistings, because the organ is sinuous*."

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* Calculosi vero his indiciis cognoscuntur: difficulter urina redditur, paulatimque, interdum etiam sine voluntate, distillat; eadem arenosa est; nonnunquam aut sanguis, aut cruentum, aut purulentum aliquid cum ea excernitur, eamque quidam promtius recti quidam resupinati, maximeque ii, qui grandes calculos habent, quidam etiam inclinati reddunt, colemque extendendo, dolorem levant. Gravitatis quoque cujusdam in ea parte sensus est: atque ea cursu, omnique mota augetur. Quidam etiam, cum torquentur, pedes inter se, subinde mutatis vicibus implicant.—*Cels. De Medicin.* iib. ii., cap. 7.

† ——" qui podagræ fere individuus est comes."—*De Podagra*, p. 584.

‡ " Anno 1660, *podagra* me invasit, paroxysmo tum immaniore tum diuturniore, quam prius unquam, miserum affligens cum ex hac causa æstivo tempore, vel intra, vel supra lectum sub mollem jugiter ad duos menses decumberem, sub finem paroxysmi, dolorem hebetem et obtusum maxime in sinistro rene nonnunquam, licet rarius, et in dextro, cœpi persentiscere. A podagra convalescenti hærebat utcunque renum dolor, qui per intervalla quædam, nullatenus acutus, sed satis tolerabilis, me submonebat; nondum enim paroxysmo nephritico (cujus sunt comites dolor ingens per ureterum ductus vesicam versus tendens, tum vomitio enormis), vel semel laboraveram. Quamvis vero nondum aderant ista calculi renum indicia, cum ratione tamen judicabam; me calculum, mole insigniorem in renum pelvi gestare; qui cum major esset, quam ut ex pelvi dicta in ureterum ductus elabi posset, prædicta symptomata non intulit. Qua in re post annos multos elapsos me hallucinatum non fuisse certo comperi. Etenim cum bruma anni 1676 statim a soluto rigidissimo gelu diu multumque obambulassem, urinam mox reddidi sanguine permistam; idque toties mihi usu venit, quoties vel multum itineris pedibus conficerem, vel in curru per platearum pavimenta veherer, quantumlibet lento equorum gressu; quod mihi tamen non accidebat quoties per viam regiam, lapidibus non stratam, licet quam longissime, curru vectarer. Urina quam tunc excernebam, tametsi terribili sanguinis tantum non sinceri specie prodiret, non ita diu post sanguine in fundo seorsim grumescente, in summitate limpida et sui similis conspiciebatur."—Sydenham: *De Mictu Sanguineo a Calculo Renibus impacto*, pp. 699-700.

* Ην δὲ ἐμφραχθῆ κοτε τῇ κοιλίῃ μέζων τελεθεὶς, πόνοι της ὀσφύος ἀμφὶ τὰς ψόας μεσφι των μεσων πλευρεων. πολλοῖσι γοῦν ἀπάτη πονου ωs ἀπὸ πλευρίτιδος. βάρος ἰσχίου

It is generally, however, during the passage of a small renal calculus from the kidney along the ureter into the bladder, rather than during the formation of the calculus itself in the kidney, that the symptoms are most urgent. During the formation the pain is dull and obtuse in the lumbar region; but when the calculus is passing, the pain is intensely acute, shooting downwards along the course of the ureters. There is also retraction of the testicle, and sense of numbness of the thigh of the affected side.

The state of the urine will vary with the nature of the concretion or gravel; but it is mostly of a deep red colour. There is constant desire of passing the urine, while it is voided frequently, and only in very small quantity at a time; and it often deposits a copious brick-red sediment. Sometimes blood is discharged, or pus is found in the urine. Sometimes a thick, ropy, adhesive mucus is voided in very large quantity. In many cases the urine merely looks cloudy; but, after standing, a copious mucus subsides, and the urine becomes clear and transparent.

The stomach very frequently sympathises, and then violent sickness and vomiting, thirst, flatulencies, eructations, and various other indications of disordered digestion? The constitution is also disturbed, and symptoms of fever, much resembling that which attends gout, appears. Aretæus says, with the dyspeptic symptoms, dry and acrid heats of the surface arise, with many of the other phenomena of fever; the tongue becomes dry; the bowels constipated; the frame emaciates, and loathing of food occurs; but if such patients should indulge and take any thing, it is digested with great difficulty *.

But although the above may be considered the usual symptoms of a calculus in the kidney, or passing from this organ through the ureter into the bladder, yet they are not to be regarded as absolutely diagnostic. If gravel or calculi have been passed either previously, simultaneously, or subsequently to the above symptoms, then there can be but little doubt as to the nature of the case. But it should not be forgotten, that symptoms almost identical with the above are sometimes occasioned by various irritations of the urinary organs, as inflammation of the kidneys, of the mucous lining of the bladder, catarrhal discharges, and similar affections, without any urinary concretion whatever.

In the ureters.—The symptoms of stone lodged in these canals will be pretty nearly those already detailed above. Aretæus says, "that when a calculus passes into the ureter there is a shaking of the whole frame, as in shivering fits, and a feeling of the calculus passing with very violent pain *." It is probably during the lodgment in the ureter that the vomiting, sickness, &c. are so severe and distressing, and that sympathetic fever runs so high. The urine is partially suppressed, or at least prevented, by mechanical obstruction, from reaching the bladder, and sometimes being re-absorbed into the circulation, produces a urinous odour from the patient, which is sometimes very sensible to the bystanders. At last the ureter either enlarges, and the pressure of the urine forces the calculus forward, and it then reaches the bladder, or the same may be effected by inflammation and suppuration; still it must be remembered that instances have occurred in which calculi were found in the ureters, and in which, during life, there were no distressing symptoms whatever.

In the bladder.—The calculus now passes into the bladder, and, if circumstances are favourable, it is discharged with the urine when passing in full stream. Under less favourable circumstances, however, the nucleus remains, and gradually enlarges by accretion from the deposition of new matter. The symptoms are often sufficiently distinct, and even characteristic. First, there is a sudden cessation of the pain in the groin and course of the ureters, which marked the progress of the stone through these canals. There is an uneasy sensation, often amounting to actual pain, felt at the extremity of the penis. This is perceived mostly upon the patient making some exertion, changing his position, or upon expelling the last drops of urine. Very frequently (and more especially in children) there is a sense of itching and an irresistible propensity to rubbing the extremity of the penis. The pain at length becomes more permanent, and much more intolerable, and there is a frequent and urgent desire to pass the urine. In many cases the urine is passed in mere drops; in others, a full stream is suddenly interrupted, and, notwithstanding the most urgent desire and the most powerful efforts of the patient, not a single drop

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κατὰ ῥάχιν δυσκαμπέες ξυννεῦσαι χαλεπῶς· ἐπώδυνοι στρόφοι, βαρέες ἀνέκλισοι τὸ γὰρ ἑλικοειδὲς ἑντερον.—*De Sig. et Caus. Diut. Morb. lib.* ii., *cap.* 3.

* Ἦν καὶ πλημμυρῇ τὸ οὖρον, καὶ διατάσιες. προθυμίη ἀπουρήσιος ὁκωσπερ ὠδίνων· φυσώδεες, ἀδιέξοδοι δε αι φυσαι· πυρετοὶ δακνώδεες ἐπίξηροι· ἀναλέη μὲν γλωσσα, ξηρη δε η κοιλιή. ἰσχνοι· απόσιτοι, ἠν δὲ τι προσαίρωνται ὔυτε πέψαι, οὔτε ἀναλαβεῖν βηΐδιοι. —Ibid.

* Ἦν δὲ εσ τον Οὐρητῆρα ὁ λίθος ἐμπέσῃ, βοασμὸς ὡς ἀπό ῥίγεος, ἄισθησις τοῦ λίθου ὁδοιπορέοντος ξυνῶ ὁμοβιαιω.—Ibid.

can be passed till he changes his position, when the flow returns, and a considerable quantity of urine is voided. It is often observed that the pain and difficulty of passing the urine does not occur at the first flow, but after nearly all the urine has been voided, and but a few drops remain behind in the bladder, which now being no longer protected by the bulk of the interposed fluid, the stone now presses against some part of the mucous lining, more particularly about the neck of the bladder, which probably having its sensibility much increased, the pain is much more violent and acute.

When a calculus first arrives, a copious flow of urine succeeds; the fæces are discharged with frequent expulsions of flatus; quietude of stomach, belchings, the pains subside, and, the ureter being sometimes lacerated, blood is voided with the urine*. Mr. Wilson has given a most excellent description of the presence and subsequent enlargement of stone in the bladder:—"In the early stages of the affection," he says, "and when the stone is small, the patient, on changing his position or on making any bodily exertion, feels a peculiar sensation at the end of the penis, as if suddenly called on to evacuate the urine, although the bladder may have been emptied immediately before; this sensation occasions the sufferer often to apply his hand to the part where it is felt: in children, when affected with stone, such action is constantly occurring. The sensation gradually changes to absolute pain, becoming progressively more constant and more severe. The desire to pass urine becomes more and more frequent, and as the irritability of the bladder increases, so do the frequency and urgency of this desire; the urine, therefore, is discharged in very small quantities at a time, sometimes only drop by drop; occasionally a little blood accompanies the efforts to discharge it, and these efforts often bring on a painful tenesmus, and an irresistible desire to expel the contents of the rectum. In other instances the patient is for a time free from pain, and a tolerable large quantity of urine is allowed to collect in the cavity of the bladder, which, on evacuation, will flow at first in a full stream, and without pain, when suddenly the stream shall at once stop, although much urine remains in the bladder, und the desire of passing it still continues urgent; this desire is consequently increased by the stoppage, and becomes most distressingly painful; and in proportion to the efforts made to pass the urine by pressure, the difficulty is increased, and the pain aggravated. On these occasions the change of position will do more than muscular efforts; for the stoppage being occasioned by the calculus gravitating to the orifice of the urethra, as the most depending part in the erect position; when the patient changes the position for the horizontal, and lies on his back, it then leaves the urethra open, by falling to the part now become most depending, viz. between the ureters. So long as the urine continues to flow in a copious stream, usually little or no pain is felt, the urine defending the neck of the bladder from the stone; but when only a few drops of urine remain, the concreted mass and irritable membrane then coming in contact, much pain is excited. The urine deposits a large proportion of mucous sediment, produced by the vessels and glands near the cervix of the bladder, being, by the presence of the calculus, excited to an increased secretion. Small portions of calculous matter occasionally come away with the urine, which on these occasions is generally, though not always, mixed with a ropy fluid, tinged with blood; but some calculi are so fine and hard that that this symptom does not take place.

"When the calculus obtains a large size, a dull but constant pain is felt at the neck of the bladder, and numbness and pain are sometimes perceived in the testicle and inner part of the thigh, extending downwards even to the bottom of the foot in some instances; a painful sensation of uneasiness is also felt in the back, which is increased by exercise, as, indeed, are all the symptoms for the most part; more especially by riding on horseback or in a carriage. The symptoms seem to be aggravated likewise when the stone presses upon the surface between the urethra and the ureters; and while in that situation, very violent fits of pain occur, which are only relieved by the removal of the stone to some other part *. Various positions of the body are tried by the patient to effect this removal; even those where the fundus of the bladder is made the most dependent part. In the case of the enormous calculus, which has been published by Sir James Earle, the patient, to evacuate his urine, was obliged to place his body nearly in a vertical position, and to repeat this sometimes every ten minutes †."

The pain and sudden interruption of the flow of the urine are regarded, by Sir

* Aret. de Sig. et Caus. Morb. Diut. Lib. ii. cap. 3.

* If we suppose a line drawn from the entrance of one ureter to that of the other, and two more drawn, one from the entrance of each ureter to the neck of the bladder, the three lines will enclose a triangular space; every portion of which is extremely sensitive. It is here that the stone presses, on the evacuation of the bladder, and produces the most intense pain.

† Lectures on the Urinary Organs.

James Earle, as diagnostic symptoms of stone in the bladder. But when calculi are lodged in folds of the mucous lining, they frequently occasion little or no inconvenience; or if they do, the symptoms are so obscure and equivocal that they will not enable us to distinguish them with certainty from those of several chronic diseases of the bladder.

The symptoms, as just now detailed, go on increasing, occasionally, however, remitting a little of their severity for a period of greater or less duration, when at length the patient's health begins to give way. Weakness, exhaustion upon the slightest exertion, listlessness, indisposition to activity, and incapability of either bodily or mental exertion gradually supervene; and whatever may have been the nature of the original diathesis, an alkaline state of the urine and a deposition of the phosphates succeed. The coats of the bladder become thickened, hardened, or otherwise organically diseased. Mucus or pus, or a muco-purulent matter, is thrown off in great abundance with the urine; the symptoms become more and more aggravated, till death at last puts a period to the patient's misery and sufferings.

In the urethra.—Calculi of small size are frequently voided with the urine, and consequently must, in such instances, necessarily pass through the urethra in their exit from the bladder. The urethra from the orifice to the bladder, does not diminish in size, but, on the contrary, rather dilates: hence bougies and catheters which can be introduced at the orifice readily pass into the bladder, unless they meet with some mechanical obstruction. But a body may enter the canal from the bladder, and be arrested in its progress from the diminished area of the passage. Many other causes also may tend to arrest the progress of a stone in this situation —for instance, stricture, inflammation and thickening of the mucous lining, small abscesses, &c. Yet calculi impacted in the urethra are not so frequent as might have been imagined. Its presence may readily be mistaken for stricture of the passage. Its effects, however, will soon unequivocally shew the nature of the case. There is always a partial, and sometimes even a total, suppression of urine; great pain in the particular spot in which the calculus is lodged. To this succeed inflammation, swelling, and thickening; and sometimes suppuration and ulceration.

Aretæus mentions the retention of calculus in the urethra. "When the calculus passes into the yard," he says, "there is a new struggle; for if it be larger than the passage, it becomes fixed there for some time; the bladder is overfilled and distended, and the urine is suppressed with very violent pain; for the ureters even with the bladder are filled and distended; but, being tortuous, they escape with difficulty *." He states further, that he has seen them hooked, and, as it were, some callous bits of flesh arise; but, for the most part, on account of the straight form of the canal, they assume an oblong form. They are of a white colour, argillaceous, which, he says, are generally found in children; others of a yellow and saffron colour, which occur more frequently in old men, in whom calculi in the kidneys are more frequent, but in children in the bladder †. It need scarcely be repeated, that a manual examination of the urethra externally, will greatly assist in determining the presence of a calculus impacted in the urethra. Plate 5, of Marcet's work offers a good delineation of a calculus in this situation.

In the prostate.—Calculi of the prostate may be recognized by certain symptoms which usually attend them when lodged in this situation. When the calculus has arrived at a certain size, there is usually some difficulty in passing the urine, with a sense of uneasiness and irritation about the neck of the bladder. But yet many cases have occurred in which even large collections of calculi have been found in the prostate after death, in which, during life, there existed no symptoms indicative of any such affection. Therefore a decisive diagnostic is wanting. In cases of prostatic calculi the prostate itself is generally diseased, and many practitioners regard the pain and uneasiness being increased by riding in a carriage upon a rough road, or upon horseback, diagnostic of a diseased gland. But these symptoms attend vesical calculi, and Sydenham's account of himself already quoted shews that they even attend renal calculi. Sir A. Cooper determined the question by manual examination. "A gentleman, about 21 years of age, became subject to a suppression of urine, for which Sir Astley was consulted. Upon passing a catheter,

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* Αγωνίη δε δευτερη, τοῦ λιθου ἡ δια τοῦ καυλου διέξοδος. ην γάρ μέζων της Οὐρήθρης ἔη, ἐνίσχεσθαι πολλὸν χρόνον, καὶ πλημμυρεῖ ἡ κύστις, καὶ ἰσχουρίη νῦν ἐπαλγεστέρη· ξὺν γὰρ τῆδε κάι Οὐρητῆρες πλμπρανται.—*Ibid.*

† Χαλεπωτάτη δὲ ἡ τῶν σκολίων διέξοδος· καὶ γὰρ καὶ ἀγκιστρὸειδεας ὤπωπα, καὶ επὶ τοῖς πόροις επιπωρώσιας. επιμὴκεες δὲ τὰ πολλὰ διαπλασσόμενοι ὑπὸ τῆς τῶν πόρων. ἴξιος· χροιῆ, δὲ ἄλλοι μὲν λευκοὶ ἀργιλώδεες, τὰ πολλά παιδίοισι· ἄλλοι δὲ ξανθοί, κροκοειδέες, γερουσι, δὲ ὅσι περ καὶ ἐν Νεφροῖσι οἱ λίθοι ξυνηθηες· ἐν Κύστι γὰρ παιδιοισι μαλλον.—*Ibid.*

a grating sensation was felt at the neck of the bladder, and the finger being introduced into the rectum, some calculi could be felt moving in a cyst within the prostate, and a distinct clashing could be heard as their surfaces were pressed together. It was proposed that a small incision should be made through the rectum into the prostate, for the purpose of extracting the calculi; but the gentleman would not consent to the operation*." This gentleman having died a few years afterwards, on dissection the prostate was found to contain a large number of calculi, as was also the case with the kidneys. The ninth plate of Dr. Marcet's work, as you see here, illustrates the prostate gland diseased and full of calculi. Upwards of a hundred of these calculous concretions were found in the gland. If a calculus, or even a fragment, should happen to be passed, its chemical composition—phosphate of lime—being almost exclusively confined to prostatic calculi, will at once decide the nature of the case.

LECTURES

ON THE

VENEREAL DISEASE,

Delivered at the Aldersgate School of Medicine, March 1839,

By F. C. Skey, F.R.S. &c.

Lecture V.

ON THE PRIMARY INDURATED VENEREAL SORE, OR TRUE SYPHILITIC CHANCRE.

The true syphilitic sore—marked by great induration—attended with or without ulceration. —Sore affecting the glans.—Sore affecting the prepuce or body of penis.—Syphilitic bubo.—Sore throat.—Three forms of eruption.—Mottling.—Psoriasis.—Lepra.—Iritis.—Treatment of syphilis.—Action of mercury.—Mercurial treatment indispensable.

This form of sore presents, in all its stages, characters in direct contrast to the destructive form of disease, described in the two last lectures. The characteristic of phagedæna is ulceration; that of syphilic disease, deposition. In phagedæna, the action is rapid and irregular; in syphilis, it is chronic and uniform: in fact, the general and local symptoms are so discordant in character, and so dissimilar in origin and progress, that it would appear almost impossible to confound them.

Syphilis, by which I mean the primary sore, commences at a more remote period from sexual intercourse than any other form of venereal affection, seldom appearing within a week, averaging about ten or twelve days, and being occasionally detected at the remote interval of four or five weeks; and I beg your attention to this fact, as an important diagnostic mark of its peculiar character.

Its presence is first observed in the form, not of a sore, but of a "circumscribed thickening;" and to the description of this very rare form of disease, Mr. Hunter doubtless applied those terms which have become of late years so notorious, however inapplicable to it may be other parts of the same. The syphilitic induration may also follow a more or less extensive excoriation, most frequently attacking the corona glandis. What may be the mode of its first inoculation it is difficult to determine; possibly, by the abrasion of a minute portion of surface which afterwards heals, leaving for a time no trace of its existence. This circumscribed induration or cellular tubercle, gradually extends, and becomes excoriated on the surface, which is slightly elevated above the surrounding level. This surface may cicatrize and become again excoriated, the extent of the exposed surface holding relation to the increasing size of the mass below. Its colour is that of a deep or tawny red, varying in depth according to the more or less inactive nature of the disease. The surface, when irritable, is rough and flocculent, is not excoriated, never exhibits (in the language of Mr. Hunter) "a fair loss of substance," and secretes a fluid which is neither purulent nor puriform. It appears in the form of a red, raw patch, on an elevated base, having in its early stage no circle of inflammation around it, and being unattended with pain or much inconvenience.

Syphilis, like other venereal sores, exhibits degrees of torpor. The induration may continue to extend during two months, without excoriation of its surface, or the formation of any kind of sore. When it attacks the glans, it may occasionally extend through one-half or two-thirds of its substance, without materially altering its form, being still a "circumscribed thickening," and presenting to the eye little more than the appearance of a hard swelling of the part. This affected portion of the glans may be entirely abraded, exhibiting a raw red surface of superficial ulceration, uniform with the surrounding level; but it is always marked by great induration.

Should it extend towards the frænum, it will convert it into a hard, somewhat thickened, and solid cord. The frænum rarely or never breaks down under the early influence of syphilis, but assumes the character of hardness of the neighbouring disease; yet it almost invariably

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* Marcet, &c. p. 19.

ulcerates under the curative action of mercury. I have examined such forms of affection, when situated on the glans, with a magnifying glass, and have not been able to detect the smallest breach of surface. When the prepuce is affected, the thickening is more distinct and circumscribed; and on denuding the glans, the diseased portion rolls over in a mass, from its inability to adapt itself to the more gradual eversion of its remaining part. This, however, is not characteristic of syphilis alone, but exists in any disease attended by partial effusion into the laminæ of the prepuce, the product of simple irritation. Still, there is a wide difference between the appearance on retracting the prepuce in disease, the result of simple inflammation, and that of syphilitic induration. The former is not circumscribed, nor is it absolutely, but only relatively hard; while the latter is often truly distinguished by the term "cartilaginous hardness."

If it attack the glans at the orifice of the urethra, it will generally involve the whole circle in a callous ring, contracting the opening to an extent injurious to micturition. There may be no appearance of abrasion, nor even of increased vascularity, except within the orifice, from which an ichorous fluid exudes in small quantity.

The direct contrast to this more general form of the sore, when situated on the glans, is found in that on the body of the penis, which is more active and inflamed, larger on its surface, and more consistent with the description I have given of the sore in general. The excoriated or ulcerated surface is of a deeper red, secretes a larger quantity of sanious fluid, and is attended with more pain. It is sometimes in colour almost black, approaching in appearance to the character of slough; but even in this state it will remain for several days without undergoing any considerable change. If in this condition the sore be neglected, it advances by slow but positive ulceration, which encroaches on, but never destroys the thickening surrounding it; for the thickening invariably characterizes the disease through all its stages.

The deposition here is the disease, and the ulcerated surface is consequent only. You cannot form a favourable opinion from the aspect of the ulcer, of the condition of the disease itself, any more than you can determine favourably of an open cancer, because it throws out apparently healthy granulations, tending to cicatrize; nay, the granulations of cancer do occasionally skin over with a pellicle of cuticle, which delusive action has excited many a vain hope of improvement. But here, unfortunately, the ulceration is not the disease, but, as I have stated in an earlier lecture, its effect only; the real disease remains unaffected. So in syphilis, the ulcerated surface may become clean and granulating, skin will form over it, and it may then return to its original state of simple deposition; but this change is temporary and delusive; the surface will again ulcerate, and the disease slowly extend, so long as the form of treatment which alone can reach it be withheld.

Bubo is an occasional, but not a general attendant on the syphilitic sore; and its characters are somewhat peculiar. It does not appear in the form of a general swelling, extending above Poupart's ligament like a mound, involving not only the glands but also the cellular membrane of the groin, but commences by a simple enlargement of one or more glands, the outline of which may be felt rolling under the finger. These glands enlarge but slowly, partaking of the chronic nature of the primary malady; they rarely advance to suppuration, nor, indeed (as has been observed by Mr. Welbank), is pus a common secretion in any form of syphilitic disease.

This form of bubo can hardly, I imagine, be referred to the product of simple irritation, unless we can suppose two kinds of irritation; because the more usual form of bubo—viz. that arising from gonorrhæa or from venerola—are the products of a disease that excites no specific constitutional affection, and must therefore be the effect of simple irritation; as the glands of the groin or axilla may be inflamed and enlarged, in injuries of the foot or hand. Now if the bubo of syphilis were the product of such irritation, we can see no reason why the same form of enlargement, and that of the same textures, should not prevail in each example: but it is otherwise. In the one case, the cellular membrane is so far involved as for the most part to conceal from the touch all outline of a glandular structure; in the other, the gland is for some time distinct, and independent of the cellular atmosphere (to use an old-fashioned phrase) around it. Practically, this feature is not important; because, be it specific or not, it is so little prone to change, so rarely advancing to suppuration, that it can have no influence on the treatment to be employed.

Without treatment, the constitution imbibes the poison of the local disease; the manifestation of which may occur at an interval of from six weeks to three months from the unhealthy cicatrization of the primary sore, and is ushered in by accelerated pulse, general pains of a rheumatic character, head-ache, loss of appetite and rest, and followed by an affection of

the throat, and also of the skin, in the form of an eruption. Either may be first affected. These constitutional phenomena are, however, by no means invariably so distinctly marked as we observe them in phagedænic disease.

The throat is attacked by inflammation of a torpid character, affecting the tonsils and soft palate, preceded by dryness. One side only may be for a time affected, but more generally both. The colour is paler than in common sore throat, or in that of phagedænic disease, and more partial in its extent. The patient complains of little pain in swallowing, so long as the surface is not destroyed. The tonsils then ulcerate, and present a whitish cavity, which cannot be mistaken for a mere aphthous ulceration, being (as Mr. Hunter expresses it) a "fair loss of substance dug from the tonsil." I am not aware, however, that in this respect it differs materially from other forms of ulcer of the tonsils. The inflammation, which at first appears somewhat defined and patchy, and which I have seen occupying the two front arches of the palate for a period, without affecting the posterior, now becomes more extensive and diffused, and the difficulty of swallowing is increased, though apparently not in the ratio of the extending evil.

Now, gentlemen, let me recommend you never to profess the power to determine a venereal throat by examination by the eye alone. When you have acquired some insight into the subject by your own personal inquiry, I am satified that you will never commit yourselves to such an absurdity. Those who profess this knowledge, imagine that Mr. Hunter has clearly pointed out landmarks so precise and definite, that the commonest observation may readily detect them. I am not aware that any author since the publication of Mr. H.'s book has dilated on this subject, nor any who has professed knowledge so exclusive. But the professional public think they know a venereal throat, because they think Mr. H. knew it. In truth, Mr. Hunter made no such profession. He honestly states that *there are many forms of sore throat*, some of which are venereal, and some not; and he moreover says, "No man will be so rash as to pronounce what the disease is by the eye alone." And here Mr. H. was unfortunately mistaken, for many men are rash enough to commit this error; but then, observe, they are not men who have studied the venereal disease; if they had, they would be cautious in pronouncing judgment on a subject of so much difficulty. Mr. H. says, "the true venereal ulcer of the throat is, *perhaps*, the least liable to mistake (to be mistaken) of any of the forms of the disease." It is not, however, to ulcer of the throat that a hasty and rash opinion is limited; but *it extends to that of mere inflammation, in which we have, in reality, still less to guide us.* Some forms of venereal sore throat are characteristic; and, as Mr. H. says, the true syphilitic (*i. e.* venereal) ulcer is least liable to be mistaken; as are the phagedænic ulcer of the back of the fauces, and the snail-track form of ulcer extending along the arches of the palate; but they are not necessarily venereal, and they can only be determined with certainty, by collateral inquiry.

The eruptive disease exhibits itself in one or more of three forms, of which the first and simplest is that which is called *mottling*; but it is important to observe that, although a frequent attendant on it, it is not peculiar to syphilitic disease.

It consists in a patchy discoloration of the skin, varying in depth of colour, from the lightest pink to a distinct red, abrupt in its margin, and slightly rough to the touch. Like a large variety of cutaneous eruptions, it fades on the approach of cold, appearing more distinct on the application of any forms of stimuli that tend to promote the cutaneous circulation. It appears most generally on the chest, front of the arms, and on the groin; it may also appear on the face or forehead. The patches are often very large, giving an altered tint to the surface, of some inches square.

The two eruptions, however, that especially characterize syphilis are psoriasis and lepra.

Syphilitic psoriasis appears in the form of circular spots, about the size of a small finger-nail, generally round, or nearly so. These spots are based on disease, not of the cuticle, but of the skin, which is inflamed and thickened, giving to the spots a slight degree of elevation, perceptible to the touch, on passing the finger over them. The base is red, or of a reddish-brown, and from which the cuticle peels in dry scales or flakes, from the period of their first appearance; they are therefore characterized throughout by the scaly eruption. The process of desquamation occurs not in large, but often in minute and broken scales of morbid cuticle, and much less considerable than in some other forms of scaly disease; and this constitutes the prominent feature of the affection from the commencement, by which it is distinguished from the desquamation of pustular, vesicular, or papular eruptions, for in these the desquamation attends the latter stage only.

The syphilitic psoriasis often makes its first appearance on the scalp and forehead, on the chin or upper lip, and back of the neck, and more frequently extends to the chest, abdomen, front or inner surfaces of the arms, chiefly about the elbow-joints,

to the palms of the hands; also to the front and inner part of the thighs. Eruptions of all kinds are modified by the density of the surface they occupy; therefore we are not surprised to find syphilitic eruption of the palms somewhat peculiar. It forms what has been called a honeycomb eruption; the cuticle separates slowly in circular patches, and is imperfectly reproduced. Mr. Carmichael first remarked the also peculiar appearance of syphilitic eruption, when situated on commissures of skin, or where two cutaneous surfaces are in contact, as at the nates, or between the toes. Here there is no desquamation nor dryness, the eruption being more inflammatory and moist, like a soft and highly organized wart. I am inclined to think, however, that this appearance is not peculiar to syphilitic disease, as I have seen it in phagedæna, as well as in other eruptions, unequivocally not venereal. It is very rare that phagedænic eruption appears on the palms, but I have seen it distinctly marked in more than one instance.

The third form of eruption is that of lepra, which is obviously pathologically identical with the last-described eruption, but appears in larger and deeper patches, surrounded by a narrow inflammatory ring, and based rather on the subcutaneous tissue than on the skin. These eruptions form encrustations of a brown colour, raised considerably above the surface, which separate as the substratum ulcerates. The crusts might be mistaken for the rupia of phagedænic disease, but they are slower in forming, and may be determined by the character of the eruption around. The eruption of syphilis—be it psoriasis or lepra—is always characterized by desquamation of the morbid cuticle throughout its progress. The entire eruption appears dependent on one single cause, and *that* a general, and not merely a local one. If one part advances, the whole advances. We need not expose the entire person of a patient, with the view to ascertain the condition of the eruption on a remote part of the body, as is required in the case of phagedænic disease, in which we find the actions of health and of disease variously intermingled—some spots desquamating in the last stage, while new ulcers or rupial crusts are forming elsewhere; but, as in the exanthemata, the whole surface appears obedient to one common influence. Syphilis, unless in a very advanced form, rarely affects the whole surface; those parts I have already mentioned being most obnoxious to it; whereas phagedæna is less discriminate in the surfaces it involves. As a general rule, subject however to exceptions, the front surface is the seat of early syphilitic eruption, the back in a greater degree that of phagedæna.

Syphilis is a slowly advancing disease, and never bursts out into violent and unforeseen destructive morbid actions; while phagedæna is constantly liable to these changes. Syphilis is rarely a destructive disease, while to phagedæna must be referred the extensive catalogue of injurious mutilations which are generally charged to venereal disease.

On this subject, however, I must refer you to an excellent paper, by Mr. Welbank, in the 13th vol. of the Med.-Chir. Transactions. To Mr. Welbank I owe great early interest and much valuable information on this subject, which I am anxious to avail myself of every opportunity to acknowledge. To its study he has successfully devoted a large portion of his professional life, and he has succeeded in accumulating a fund of important information on the pathology and treatment of venereal diseases, which I conceive to be not surpassed by any surgeon of our time.

Iritis is a rare attendant on syphilitic disease. When the iris is inflamed it is generally affected singly, and occurs at a later date than when attendant on phagedæna. It is supposed to be characterized by earlier deposit of lymph than any other form of this affection, and it warrants the fullest exhibition of mercury for its cure.

Affections of the bones, and of the larger joints, are among the more remote consequences of syphilis, all of which are marked by slower, but more regular action. Periosteal inflammation is, however, less frequent than in phagedæna, and there is little or no propensity to suppurating nodes. Pains are often referred to the substance, more especially of the long bones, and to different regions of the body, which do not appear referable to the bones.

The *treatment of syphilis* is essentially mercurial, although the possibility of subduing its influence by other means has been thoroughly established by the army surgeons. Mr. Rose, in a paper you will find in the 8th vol. of the Medico-Chirurgical Transactions, states that he had treated successfully all the venereal cases of the Coldstream Guards during a period of twenty-one months, without mercury. Mr. Guthrie, as the result of an extensive experience, says, "Every kind of ulcer of the genitals, of whatever form or appearance, is curable without mercury;" in which opinions Dr. Hennen and Mr. Carmichael fully concur. With such evidence before us, who can doubt the fact? The question, however, is not whether the *scaly disease* of Mr. Carmichael can be cured without mercury, although the establishment of that fact was of great value in subverting the universal faith in the indis-

pensability of mercury to the cure of any form of venereal disease; but the question is, whether its treatment without mercury is in all respects the best: and on this subject there can be little hesitation as to the course to be adopted and preferred. The influence of mercury on some constitutions is formidable, while in others it is harmless. We have recourse to its use internally with a view to effect one of three objects: 1st, that of a purgative; 2d, that of the so-called alterative; and 3d, with a view to produce in the system some remarkable effects, which are said to be due to the specific influence of the medicine, chiefly on the absorbent system; and the production of which is considered essential to the cure of certain forms of disease that experience has proved subject to its power. In respect of the first I have nothing to say; of the second and third, however, I am myself anxious to learn how far they may be deemed identical in action, however varying in degree.

The influence of the "alterative" appears to be directed to diseased actions chiefly; it is said to correct unhealthy secretions, to diminish unhealthy enlargements; in short, to use the language of my friend and colleague, Mr. Pereira, "it indirectly induces healthy action in a very slow, gradual, and incomprehensible manner." The third effect, or rather the third degree, is that of a sialogogue, for the *effects* of large and continued doses are numerous. When employed in such quantities it excites secretions of all kinds, and among the foremost that of the salivary glands of the mouth, attended, when persisted in, by swelling and ulceration of the gums, fœtor of the breath, swelling of the tongue, and great prostration of strength. These are among the more striking effects of continued doses of mercury, or they may occur in peculiar idiosyncrasies on the administration of minute quantities.

This is the important agent, the influence of which has been long employed in the treatment of venereal sores, and of which the first observation I wish to make is, that you are not to consider it in the light of a direct antidote to the poison it is employed to supersede. Its influence is merely but strictly indirect, and is exerted by producing a condition of constitution unfavourable to the propagation of venereal disease. "I am," says Mr. Carmichael, "decidedly of opinion that mercury acts by exciting an irritation capable of superseding that of the syphilitic, and in this point of view it can be of little consequence by what quantity of mercury, whether little or great, that irritation has been excited. But whatever be the quantity, it is necessary, for the cure of syphilis, to excite a strong mercurial action, and to make the constitution feel and suffer under the debilitating influence of the mineral."

When speaking on the subject of venerola, I told you that that disease did not require mercury in such doses as to produce ptyalism; that it might occasionally, in obstinate cases, be given in limited doses, such as 5 gr. of blue pill, every night. In phagedæna, I stated to you not only that mercury was not required in the early stages, but that the effects of mercury too closely resembled the disease it was employed to cure, to be otherwise than most objectionable; although it was occasionally used with advantage in the later stages.

In syphilitic disease it is our great resource, and the only remedy on which we rely with confidence. But with what effects—to what degree is it to be employed?—because, as I am indifferent to the injurious influence of the mineral, I am ever solicitous to attain the end in view with as small a quantity as is necessary. Mercury acts as a sialogogue—that is to say, an action by which is produced a large increase of saliva from the glands secreting it. But the presence of mercury in the system is rendered apparent, short of its influence on the salivary glands—viz. by the inflamed and puffy condition of the gums, and by the fœtor in the breath. The question is, then, whether salivation (an effect often remote and obtained with difficulty) is essential to the cure, or whether the object cannot often, perhaps generally, be obtained by the minor quantity?—and here we may appeal to experience. Where mercury is employed in the last stage of phagedæna, it has always appeared to me that salivation was most undesirable, and that the influence of mercury on the gums and on the breath was all that was required. I believe the observation to be equally applicable to its administration in either primary or secondary syphilis. Not that I object to an increased secretion of the salivary glands in moderation; from which, however, in itself, no possible advantage can be derived, seeing that salivation is *not a very infrequent symptom of syphilis* before treatment; but I confess I cannot withhold my humble protest against that indiscriminate and universal resort to the baneful influence of mercury, which can find no advantage short of extremes.

I believe that the constitution will rally, and often in a short time, from the consequence of a severe course of mercury once employed, as we find in the parallel example of loss of blood; but that the effects of a second and third ptyalism are in a compound degree more injurious; till, however, at length, after repeated salivations, the constitution may become comparatively insensible to its influence; and it is in this latter condition of the constitution that it

may often be employed with advantage in phagedænic disease. But, on the other hand, I am not blind nor indifferent to its injurious effects on the future health of those on whom it has been lavished with an unsparing prodigality, for the cure of diseases which are trifling, in comparison with those it has engendered. How many examples of health and prospects blighted, through personal disfigurements and mutilations; severe and protracted suffering from rheumatism in every form; dropsy; latent pulmonary disease fanned into activity; phagedæna itself, with its horrid catalogue of ulcers and necroses—these and various other diseases, no less serious in degree or kind, may date their birth from the often useless and generally indiscreet use of this mineral poison! We have ample experience of the harmlessness of mercury when employed *largely* during a short period—a month or five weeks, for example, or even longer; but, as I have before stated, it is the repetition of its use—the renewal of its administration often before the health has completely rallied from the influence of the former salivation, and this followed by a third and a fourth appeal to the medicine, each more severe and debilitating than the former; then is it, with the physical and mental powers of the miserable subject gradually wasting, phagedænic ulcers of the throat and skin, incrustations of the nose, both within and without, suppurating nodes, hectic fever, and general emaciation, that a steady, continued, and effectual course of mercury is once more demanded, in the vain hope of subduing a poison that is fostered by its presence, and compared with which the most virulent and destructive pox I ever had the good or ill fortune to witness, is as a dwarf to a giant.

Mercury employed in phagedæna is often for a limited period beneficial, but rarely when pushed to the extent of ptyalism; and thus we are deluded by the specious influence of the mineral. In syphilis its advantages are perceived from the moment its influence is felt by the circulation. The improvement is steady and progressive; the symptoms recede, as Mr. Hunter announced to us, in the inverse order of their appearance: first the sore throat or eruption, and lastly the primary sore.

It is rare that syphilitic disease exhibits itself after a mercurial course. Where it does appear the mercurial action has been imperfect, and must be renewed. This is an unpardonable error in the surgeon; for the same ground, under increasing disadvantages, has to be retraced. It is objectionable, because mercury in a thoroughly unmercurialized constitution is a much more efficient antagonist to syphilitic disease than in a constitution once and recently the subject of its influence. In the second instance larger doses and longer time are required, although salivation is more readily attained,—a proof, if any were required, that mercury is no antidote to syphilis, but merely that the irritation or disorder it creates is incompatible with the presence of syphilitic poison.

Mercury may be employed either internally or by inunction. It is generally preferable to combine them, giving each in a mitigated quantity. For ordinary cases, five grains of blue pill night and morning, combined with the fourth or sixth of a grain of opium, added to the inunction of a drachm of mercurial ointment every night on the thighs, or in the axillæ, will produce swelling of the gums and soreness of the mouth in the course of from four to six days. Often larger doses are required: calomel may be substituted for blue pill, in doses of two grains, with half a grain of opium to prevent its action on the bowels, every six hours. Some practitioners prefer the compound calomel pill; but it is of little moment how the effect is produced, provided it be obtained. When the gums are thoroughly inflamed and sore, to the extent of compelling the patient to eschew solid food, the mercurial action must be maintained continuously; this does not require persistence in large doses. The maintainance of the effect may be accomplished by their reduction to about two-thirds of the former dose; and this should be unremittingly continued, not only until the secondary eruption and primary sore have entirely cicatrized, but until the indurated base of the primary sore is wholly absorbed; for in this base slumber the elements of disease, which will burst forth with renewed energy at no remote period, should the patient lack perseverance in the necessary treatment. The diet should be reduced, and the patient confined to a uniformly warm temperature. It is not desirable, however, to reduce his strength by depletion, although moderate depletion may accelerate the appearance of the mercurial action. As soon as this object is attained, you may order sarsaparilla, the tonic influence of which will not interfere by diminishing the mercurial action, while it will uphold the strength, and shorten the period of after-recovery. It is not necessary to persist throughout the entire treatment in the reduced scale of diet, particularly if the presence of a mere induration, following the healing of the sore, demands the persevering use of the mercury, when all the other forms of the disease have subsided.

When all local and general appearances have disappeared, all that remains

for us is to endeavour to replace the patient in the position he occupied previous to his illness; and this may be effected by good diet, moderate use of wine, or the compound tincture of bark, and change to a purer atmosphere.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

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(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 332.]

I.—INJURIES OF THE HEAD CONSIDERED FIRST MERELY IN RELATION TO INJURIES OF SCALP AND FRACTURES OF BONE.

Peculiarities of fracture in bones of the head, and their classification in reference to diagnosis and treatment.—Simple fractures, with and without depression—direct and by countershock. — Compound fractures, with and without depression—with loss of substance—with and without lesion of dura mater—with lodgment of foreign body.—Scalp wounds.—Principles of treatment.—Puffy scalp similating fracture.—Burrowing of matter.—Erysipelas.—Treatment by free incisions.—Opposite tendency of the instructions of many writers. — Cases in illustration. — Depression.—Principles of treatment.—When to interfere by operation.—Modes of operating indicated by different kinds and degrees.—General conclusions.

In the lectures devoted to fractures, I told you that there were some bones the injuries of which should rather be considered with reference to the vital organs within, than any violence done to the osseous structure. Such are the bones of the head, of the spine, pelvis, and thorax. In these the fracture is only of secondary importance, while the injury inflicted on the brain, spinal column, thoracic and pelvic viscera, command the most urgent attention, since the consequences frequently involve the life of the patient.

Before I proceed to consider these graver injuries of the head, it may be as well to indicate the various forms, the nature, and the treatment generally, of scalp wounds and fractures of the bones of the head, unattended or uncomplicated by any other injury. Such cases occasionally occur; and this seems the simplest manner of bringing before you a class of injuries at once the most important and complicated. Physiologically and pathologically viewed, they are also the most interesting in the whole range of surgical science.

The skull, from its position, is more exposed than other bones to accidents and injuries. It is not only liable to fracture by direct violence applied to the part, as when a man falls upon his head, but the vibration and concussion communicated through the spinal column will produce its worst form of fracture, as by a fall from a great height upon the feet, or perpendicularly on the sacrum, giving rise to a fracture of the base of the cranium.

Another peculiarity not met with in other bones, or only in lesser degree, consists in the fracture often taking place in an opposite direction to the part which receives the blow. This is in accordance with a law of physics, by which an arch, if overloaded, gives way at its weakest part. The most frequent seats of immediate injury are the forehead, occiput, or centre of parietal bones. If the blow does not fall with such force as to crush in all before it, the frontal, parietal, or occipital bones may escape fracture where they are struck, the arch giving way where it is weakest—that is, across the base.

Fractures of the head you will find divided, in many surgical works, into two chief classes—those attended with depression, and those without: a classification faulty in two ways; for simple fractures here, as elsewhere, should for practical purposes even be distinguished from compound; and there is another class not included—that is, where portions of skull are entirely removed, as by sabre cuts. I have seen in the same head the skull divided for several inches across the head, in cuts extending from the forehead to the occiput, and two large elliptical portions taken out: it was the case of a Miguelite officer, who died about the eighth day, in a field hospital under my charge. Here concussion is less, probably, than where fracture takes place from ordinary causes, but the danger of inflammation to the membranes and brain very much increased. This patient died from

inflammation, lying for several days in a state of great excitement and delirium, which continued to the last. On the eighth day, as I stood by his side, he started up from a partially supervening stupor, which was palsying alike his eye and tongue, and with kindling animation gave the word of command to his troop—"Forward, and on to Cartaxo!" Poor fellow! he had indeed reached Cartaxo—but without his troop: he fell back as he spoke, and the next moment was dead. Cartaxo was our head-quarters, and had been the object of the battle in which he fell, while charging with his squadron. I regret I have not his skull to shew you, for a head so carved and hewn I have seen but once. The living, however, at this period left me no moment to bestow upon the dead.

Class these fractures of the head, as those of all other bones, into simple and compound; and each of these into cases with depression and without. To the compound add two subdivisions—1. with loss of bony substance; 2. with presence of foreign body.

Although it is quite true that the bad symptoms accompanying a broken skull do not arise by the mere breach of continuity in the bone, which, on the contrary, is of comparatively trifling importance, but from these injuries being united to others, such as concussion, lesion, inflammation of brain or membranes, &c.—for I need hardly remind you of the difficulty of breaking a man's skull without shaking its contents—yet still, if the patient be not destroyed by these, then the differences in the original nature of the injury lead to practical distinctions in the treatment, and differences in the results.

When there is not depression or lodgement of a foreign body, the fracture has nothing to do with the symptoms, which may exist with or without fracture, and only indicate injury to the nervous matter. The sickness, giddiness, loss of motion, &c. have no relation to the fracture, unless by the circumstances of pressure from bone or other substance introduced through the fissure. These are effects referrible only to concussion, &c. The mere fracture of the bone has not more influence than a fracture of the humerus.

Apart, therefore, from the symptoms and effects to be referred to concussion or pressure from various causes, and inflammation, fractures of the bones of the skull offer but few points of interest, and still fewer indications for peculiar treatment.

As we are considering the injuries of the head for the present merely in relation to contusions or wounds of scalp, and fractures of bone—viewed as contusions, wounds, or fractures simply, I shall content myself with a very few observations on their various degrees, their nature, and treatment.

And first of scalp wounds.—There is no principle of greater importance than that which is now well established—thanks, in no small degree, to the exexertions of Mr. Pott—viz. always to replace any torn or displaced scalp, and endeavour to produce union. I cannot but think, in many points connected with these injuries, that he laboured under considerable error; but even so, it is in a great measure redeemed by this practice, to the establishment of which he so much contributed. The removal of a portion of scalp will generally lead to detachment of the pericranium by sloughing. You will remember that I told you, in my lecture on the bones, that any injury to the investing membrane was very likely to lead to exfoliation, and all the worst diseases of the osseous tissue. That as the short and flat bones were nearly entirely dependent upon these membranes for their nutrition and vitality, injuries to these were still more carefully to be guarded against or treated. The long bones are plentifully supplied by a nutritious artery, of which the bones of the skull are deprived. Hence the frequency of exfoliation from injuries of the scalp and head. You also saw how injury to the periosteum by a sympathetic action caused disease of the medullary membrane, and sometimes in the worst forms. Apply this knowledge to the bones of the skull, and you will see that injury to the pericranium is likely, in a similar manner, to affect the dura mater, which is not only the investing membrane of the skull, but also of the brain; any diseased action, then, in this, sinks into insignificance as regards its effects, even on the bone, for it implicates the centre of nervous power, and gives rise to inflammation of the most fatal character, involving the brain.

Hence it follows that all scalp injuries must be treated with careful

reference to the pericranium, and that the principles of treatment already laid down in previous lectures for injured periosteum, and parts covering, apply here, only more rigidly, and in a more important degree. If there be detachment of the scalp, with or without abrasion of the pericranium, immediately and carefully cleanse and replace the parts; endeavour by every means to procure adhesion, and restrain the inflammatory action within these bounds. The following case, which came under my care many years ago, will prove how much may be effected by this careful treatment:—

James P——, fell from a first-floor window and pitched upon his head, laying bare nearly the whole of the left half of the frontal bone, making a large triangular flap, bruised and covered with mud, hanging over that side of the face. His neck, right arm, and ankle, were also injured. I saw him a few minutes after the accident; the parts were carefully cleansed, the flap laid down, and the edges kept in apposition by a suture at the apex of the triangle. He had neither fever nor headache; the parts united nearly entirely by the first intention. He was kept in a darkened room perfectly quiet, starved, freely purged, and a cold lotion applied. In ten days he was quite well, with the exception of some swelling about the ankle.

It has been said by Mr. Abernethy that the dura mater detaches in the same proportion as the pericranium. This is not, however, exactly as I have observed it. Here are many very fine specimens. In no case does the detachment of the dura mater and pericranium exactly correspond. Generally, as you may observe, the dura mater is more extensively detached. This is a preparation of great interest; the pericranium in this case was extensively detached; but the dura mater, although diseased, was so far from being detached, that it was unusually and strongly adherent. The principle, however, established by Mr. Abernethy, I hold to be a true one, taken with some little modification. Injury to the pericranium leads to corresponding disease in the dura mater.

Simple fracture, with contusion of soft parts.—Extravasation of blood beneath the scalp, great effusion of lymph, swelling, discolouration, heat, redness, pain and tension, with more or less of general disturbance, are the usual attendant symptoms on these injuries. The first step, then, is to clear the head of hair entirely, by which you bring under observation the whole of the scalp, relieve the head of a warm covering, and facilitate the application of all remedies. This was a general order enforced in all the hospitals under my direction, the moment patients were admitted, and I have had ample opportunities of appreciating its good effects.

Secondly,—Ascertain if there be displacement or depression. In making this examination, let me recall to your mind an observation already made, that a violent blow on the scalp always produces an exceedingly hard circumscribed swelling, round its edges particularly, by the effusion from the capillaries, while the part which received the blow is flat, the cellular structure condensed; thus there is circular hardness with a depression in the centre. You must feel this yourselves, before you can be aware how identical is the impression communicated by these effects, with actual depression of bone. And you must have examined many heads with and without compression before you will acquire the power of readily and surely discriminating. The importance of correct diagnosis is great; for although you are in no degree authorized in performing an operation if other symptoms of pressure do not exist, yet as these may be present independent of fracture, they do not of themselves give satisfactory indication; and even if pressure did not arise from several causes, we have not yet attained the degree of knowledge necessary to distinguish in all cases between concussion and pressure. The slight variation in the feeling communicated, no directions will suffice to enable you to distinguish. Take every opportunity of examining most carefully injuries of the head, and you will, by experience and attention, easily acquire the power.

If it be decided that there is not depression, apply a cold lotion over the whole surface of the head; purge freely. If you cannot effect the cleansing of the alimentary canal by medicines given by the mouth, use injections with castor oil, and, if necessary, croton oil; but take care the bowels are emptied. A blow on the head very generally acts as

an excellent emetic, and secures the unloading of the stomach. After this, if the patient can swallow, give antimonials and salines; act generally upon the secretions; keep your patient perfectly quiet, without food, and in a darkened room, for light is a powerful stimulus to the brain. If the concussion or extravasation be not to a fatal extent, the patient will gradually recover; the injury to the scalp and the bone beneath will also be repaired by healthy inflammation. The absorption of all effused matter removes the swelling, calculated at first to mislead, in a few days. This treatment, as far as it goes, is equally applicable to the most severe forms of injury.

Sometimes, however, violent inflammation of the scalp sets in; matter forms under the occipito-frontalis muscle and fascia, or between the pericranium and skull; there is great tension, redness, and heat; the suppurative action is running on to the gangrenous; often complicated with erysipelas. Your patient now is becoming each hour in a more dangerous and less satisfactory state; and if active and judicious measures are not promptly taken, delirium and death will result. If the state of pulse sanctions depletion, bleed freely; and let me observe, that in severe injuries of the head, there is in particular stages a very slow pulse. I have had several such cases lying side by side in the same ward, with pulses varying from 38 to 60, and that for many days together. On this symptom and its causes I shall enter fully hereafter. I refer to it now, to tell you that you must judge of the state of plethora not by the *number of pulsations*, but by *their character*. If you find the pulse either hard, wiry, or of full volume, but laboured, you may bleed with advantage, even if the pulse be 40; and, indeed, you will observe disease is as much indicated by an unnatural slowness of pulse as by rapidity. On these distinctions there is much important information to be conveyed. If the pulse permits, then, bleed freely; I do not tell you until 20, 24, or 30 ounces have been abstracted; for, as I warned you, bleeding should always be regulated by *effects;* bleed, then, until you have produced an effect on the pulse—until it becomes less hard, wiry, or laboured, and somewhat more accelerated in its course. Leeches to the neighbourhood of the injury are doubtful remedies where there is any disposition to erysipelas, and not to be recommended. Blood abstracted from the temporal artery would be better, and this may be so performed as to produce the effect either of local or general bleeding.

If there be any indications of suppurative or gangrenous action, ushered in with heat, tension of scalp, &c., relief is only likely to be afforded promptly and efficiently by two or three *free* incisions down to the pericranium, or if matter has formed between this and the bone, then down to the skull. And these may often require to be three or four inches in extent. Let them bleed freely if you have any indications of plethora. It is easy to secure the arterial branches when you wish to stop all further hæmorrhage, even if the small vessels do not retract and close spontaneously.

I am the more anxious to impress this practice upon you, from a tendency in the writings of some of our best surgeons to condemn it, or rather in their anxiety to counteract that reckless meddling with these injuries, and cutting down upon fractures, without any defined or sufficient motive, formerly much in vogue, and perhaps occasionally adventured on even now by those who have no fixed principles of treatment, and think they should do something, without knowing what—to control these meddlers, they have almost erred on the other side. Under the treatment I have here recommended, your patients will often do well, when by temporizing or less active measures, they would sink and die. One of the most remarkable instances I remember, and which first impressed upon me the value of this treatment, occurred in a patient of Mr. Guthrie's, admitted in the Westminster Hospital during the period I was house-surgeon, ten years ago. A man had fallen from a building of great height, broken half the bones in his body, and covered it with contusions.

His head had suffered severely by blows; erysipelatous inflammation rapidly set in on the scalp, with great heat, tension of parts, and delirium. Mr. Guthrie, whom I sent for, made four free incisions down to the bone in some places — in various directions, where the tension and diseased action seemed the greatest. Several twigs of arteries were allowed for some minutes to bleed freely; the delirium rapidly subsided; the scalp took on a healthy

suppurative action; and he recovered without any ensuing bad symptoms.

Another not less remarkable instance of the importance of relieving the tension and inflammation under these circumstances occurred some time back. Col. T., who received a fatal gun-shot wound of the head, fracturing the frontal bone to a great extent, on the evening of the fourth day had become delirious, and I hobbled to him (being lame myself from the same action) at the urgent request of one of his relations. I found the scalp over the forehead red, hot, and bound like a broad cord so tensely stretched over the injured parts beneath. The shot had penetrated near the centre and above the left orbit, and, proceeding obliquely upwards, fractured the os frontis near the frontal prominence of the right side.

I laid open the whole of the parts between the two points of fracture, and allowed a smart bleeding from several vessels to continue until his pulse became softened in character. He expressed great relief in a few minutes. The next morning his intellect was clear, and he made his final arrangements without difficulty, aware that I entertained scarcely a hope of saving him. The bleeding, I doubt not, contributed to the good result, but I have seen sufficient to feel convinced that no bleeding alone would have produced such prompt and decided amelioration.

With respect to fractures, you must remember that the skull is composed of an outer and inner lamina or table of bone, and that between these two there is a cancellated structure termed the diploe. This, at some periods of life, and at different parts of the bone, is of considerable thickness, and in some heads much thicker than in others—thus the outer table may be pressed into the diploe, an actual depression on the outer surface exist, without the slightest change of place in the inner. External depression, even when it exists, then, is not an indication for trephine.

Nay more, if actual displacement shall have taken place, you are not authorized by experience in performing any operation in the absence of symptoms indicating injurious pressure on the brain; for many cases are on record of extensive depression without bad consequences. There are two exceptions to this rule: when an external wound already exists, if depression is evident, the lever may always with propriety be employed to raise the depressed portion. You will meet with fractures, however, where the point of the lever cannot be introduced. In such a case, wait for symptoms, if none be present, indicating pressure. 2dly. When foreign bodies are introduced in such cases, it should be a principle always to extract them, if within reach, with the least possible delay. Instances there are of balls and other foreign bodies lying imbedded in the brain, and harmless, for years: they are, however, very rare, and, from my own tolerably extensive experience in these injuries, to which I have always paid great attention, such favourable cases I know to be only exceptions, and therefore give you the rule absolute—always, without loss of time, but with the least possible disturbance, remove any foreign body if it be within reach, using the trephine, if necessary, to enlarge the opening. To this subject, however, I shall return hereafter, in connexion with injuries of the brain.

In a case where you distinctly ascertain depression, when all the attendant symptoms indicate injurious pressure, you then proceed, by a crucial incision, to obtain space necessary; and if you cannot by the lever raise the depressed portion, either the trephine may be applied or Hay's saw, according to the nature of the fracture and the result you wish to obtain, merely acting upon one principle—to remove the least possible quantity of bone—to effect it with the least possible disturbance of surrounding or subjacent parts. Particular directions respecting these operations I reserve until I have the opportunity of demonstrating them on the body.

Gentlemen, I will give you a last and conclusive argument against all operations of the nature of trephine, unless imperatively indicated; and that is, that they are generally fatal. I do not mean the mere operation itself is of such a nature as to produce death, but that the injuries requiring them produce so much mischief as seldom to give the operation a fair chance, and that the injury of the operation superadded to the original, no doubt contributes to the unsuccessful issue. The fatal result of all cases in which the trephine was used at the Hôtel-Dieu, was so constant, that in Desault's time he entirely abandoned it.

This I do not recommend; it is im-

peratively indicated in many instances, and often is the means of saving life; therefore, as to the numerous cases in which it fails, having once ascertained that it offers a chance of life which the patient would be deprived of without, your rule of conduct is perfectly clear; and he must be wanting in knowledge, or wanting in moral courage to do his duty, who hesitates. The following conclusions may be deduced for your guidance, from the considerations and facts now brought forward:—

1. The importance of fractures of bones of the head is dependent upon injury, primary or secondary, to the contents of the skull; indicating the principle of practice, that in all injuries of these bones the utmost care and vigilance is required in the treatment, local and constitutional.

2. That simple fractures without displacement give no diagnostic signs apart from the constitutional symptoms.

3. In all injuries of the head, when fracture is either ascertained or doubtful, remove the hair, apply cold, and cleanse the bowels.

4. If inflammatory or erysipelatous action, or suppuration under the scalp, supervene, free incisions should be made, to give vent to any matter, relieve the tension, and cause free local depletion—unless counter-indicated by the patient's pulse.

5. The trephine is only admissible when the symptoms indicate injurious pressure, or when there is a foreign body *in sitû*. Mere depression of bone does not indicate such an operation. When there is a wound, and the bone can be raised by a lever, it should be done at once, and without hesitation.

CASES, WITH OBSERVATIONS.

By Dr. Hughes,
Physician to the Surrey Dispensary.

Empyema.—There are, perhaps, few diseases the diagnosis of which has been more assisted by the discoveries of Avenbrugger and Laennec; and there are, perhaps, none in which a mistake may more seriously affect the reputation of the practitioner, and sometimes even the life of the patient, than empyema. Before the employment of percussion and auscultation, the operation of paracentesis was not unfrequently performed by even good and experienced surgeons without the liberation of fluid. It sometimes happened that the disease had no existence except in the mind of the surgeon, and that fatal consequences resulted from his mistake. When, indeed, the indefinite nature of the symptoms, which were formerly considered characteristic of the complaint, are regarded, little surprise will be felt at the occasional occurrence of such mistakes. Fixed pain, laborious breathing, incapability of lying on the sound side, enlargement and fluctuation of the diseased side, and a dry, tickling cough, are given as the indications of the existence of the disease. It must be well known to every accurate observer that these, or most of these symptoms, may be dependent on other causes than empyema; and also that this disease may exist when the majority of them are absent. *Pain* is always an uncertain symptom, as it can be judged of by the physician only from the representation of the patient. One person will complain considerably of that which another will mention merely as uneasiness, and which a third will totally disregard. If complained of by a person supposed to labour under empyema, it may arise from recent pleuritis, rheumatism, neuralgia, or, according as it may occur on the right or left side, on congestion of the liver, hepatitis, cardialgia, &c. *Laborious breathing* is of little value as a diagnostic of this complaint, as it exists in a variety of other affections, and may depend on chronic bronchitis, emphysema, or œdema, or hepatization of the lung, hydro-pericardium, hydro-thorax, &c. Considered alone, therefore, it is of little importance as a diagnostic. *Incapability of lying on the sound side* also is present in other diseases, as in enlargement of the liver, consolidation of the lungs from pneumonia, and phthisis, and is by no means universal in empyema. It sometimes happens, from the fluid being confined to a particular situation by local adhesions, or other causes not easily explained, that the patient lies most easily on the sound side, as I have myself observed in more than one instance. It must also be recollected that the position which is generally assumed by persons affected with this complaint, as most agreeable, is that of supination, with only very slight inclination to the diseased side.

Enlargement of the affected side may be really present, or may exist in appearance only, and in both cases may arise from other causes. Enlarged liver and natural conformation may be the cause of the increased dimension in one case; and curvature of the spine, or contraction of the chest from old pleuritic adhesions, may induce a semblance of it in the other. But if the empyema is general, if the fluid is not confined by adhesions to a particular part, a long period may elapse previously to perceptible enlargement of the side. For as the spongy tissue of the lung is much more easily compressed than the parietes of the chest are dilated beyond their ordinary state of expansion, little or no increase in size will occur till the fluid has accumulated in quantity sufficient to compress the lungs to the utmost. *Fluctuation of the diseased side* I believe to be by no means frequently observable in empyema, and if present, may arise from abscess of the liver, as in a case related by Dr. Townsend; or from diffused abscess of the integuments. *Frequent tickling cough* so much more frequently depends upon other causes, as phthisis, irritable bronchial membrane, or gastric irritation, than upon empyema, that it can obviously be but of little importance as a diagnostic of the complaint last mentioned.

Individually considered, then, none of the symptoms mentioned are characteristic of empyema. It may, however, be said, that collectively they are sufficiently indicative of the existence of the complaint. Though when all of them are present, this certainly may, in the majority of cases, be correct, experience has abundantly proved that it is not so in all. The physical signs will, in cases of doubt and difficulty, if taken in connexion with the general symptoms, almost universally lead us to a correct diagnosis. The physical signs of empyema, in addition to enlargement of the side, separation of the ribs, descent of the diaphragm, and dislocation of the heart, which are not always present, and rarely appear in an early stage of the complaint, are great dulness on percussion, distance or absence of the respiration, deficient resonance of the voice, and an absence of that trembling vibration communicated by the reverberation of the voice to the hand when placed upon the parietes of the chest. These signs will be coextensive with the quantity of the effusion, and may coexist with bronchial respiration, sibilous rattle, or even a certain amount of respiratory murmur in other parts of the same side, and with puerile respiration of the healthy side. Though these signs may at first sight appear by no means pathognomonic, as under certain modifications many of them are also present in other diseases, they will, I believe, when attentively examined, be almost a certain guide to the experienced auscultator, who is well acquainted with the general features of disease. The affections which, from a similarity of physical signs, are most likely to be confounded with the complaint under consideration, are, consolidation of the lung from pneumonia, and phthisis pulmonalis, and enlargement or abscess of the liver. From pneumonic consolidation it may be usually distinguished by the greater degree of dulness; by the almost perfect or entire absence of respiration in the part affected, which in hepatization almost always affords bronchial respiration and soft crepitating or mucous rattle; and by the character of the voice, which is trembling and shrill if the fluid is in a thin layer, and which, gradually decreasing in force as the fluid accumulates, is scarcely audible when it exists in considerable quantity; while, in consolidation of the lung, it is increased in intensity, without being materially altered in character. By placing the hand also upon the diseased side, a striking difference will be observed. If the dulness depends upon fluid, the natural vibration communicated by the voice to the parietes of the chest will be lost, while in hepatization of the lung it will be increased. In phthisis the dulness is, I believe, never so great, and the absence of respiration never so complete as in empyema. Should any doubt, however, exist on this head—should the dulness in the lower part of the chest be so considerable as to cause any difficulty, that doubt will be removed, and the difficulty solved, by further examination. Empyema commences generally below, and proceeds upwards; phthisis, on the contrary, begins almost uniformly in the apex of the lung, and progressively affects the inferior parts of the organ. It will therefore be found that, when considerable dulness—the result of tubercles—exists in the base of the lung, the disease in the apex will al-

most certainly be so far advanced as, by the presence of gurgling, amphoric respiration, or pectoriloquism, to enable the physician easily to decide on the nature of the complaint.

Enlargement and abscess of the liver will be best distinguished by the previous history and general symptoms, as I believe there are cases, particularly of the latter disease, which present exactly the same physical signs as empyema.

I have hitherto referred only to those examples of pus in the chest, in which the whole sac of the pleura is, or may become, involved in the disease; but it is in the local forms of the complaint—in those cases in which the fluid is confined to a certain space by old firm pleuritic adhesions—that percussion and auscultation are especially valuable as means of diagnosis. It is in such cases, I believe, that paracentesis may be performed with the best prospect of success, if practised with the view of curing the complaint; and in such cases, if the fluid has not already caused local distension, the physical signs afforded by percussion and auscultation can alone direct the operator to its exact situation. It may also be added, that it is by the physical signs alone that those cases can be distinguished in which the fluid is confined between the lung and the mediastinum or diaphragm, and an unnecessary and dangerous operation consequently avoided. It is, I think, highly probable that among the many instances in which paracentesis has been performed without the escape of fluid, the want of success has depended not so much upon an incorrect diagnosis, as upon the trochar being introduced in a situation marked out by authorities, rather than in the part indicated by dulness and want of respiration. The following case, though brought forward chiefly on account of the remarkable condition of the duodenum, is a good example of the ordinary form of empyema.

Samuel Robins, aged 44, came under my notice as a patient of the Surrey Dispensary, in October 1838. He was by occupation a lighterman, the father of six children, and of very temperate and industrious habits. His complexion was dark; a hectic flush was constantly on his cheeks; he had a frequent short cough, accompanied with muco-purulent expectoration; his respiration was hurried; his pulse small, frequent, and feeble; nocturnal perspirations were general, and emaciation was slowly progressive; his appetite good, evacuations natural, and spirits excellent. Without any attentive examination of his chest, I supposed him to labour under phthisis, and treated him accordingly. For some time he appeared to derive much benefit from mild expectorant tonics, and blisters to the chest, with a narcotic at bed time. After about a month, however, he was so reduced in strength as to be confined to his bed. I then for the first time examined his chest by auscultation and percussion, and was informed of the following particulars of his previous history. About six years before he had suffered from an abscess in the leg, but had not been in any way inconvenienced in consequence after its speedy cure; and for about twelve months before I saw him he had been affected with a trifling cough. With these exceptions he had been in the enjoyment of excellent health till about eight weeks previously to my visit, when, after lifting a heavy weight, he felt a severe pain in the right side, for which he was cupped and took some medicine with relief. He afterwards felt frequent "flutterings and palpitations in the stomach," and suffered from severe vomiting, both of which were, after a week, stopped by aperients and effervescing mixture. His general condition, notwithstanding, was not improved; he passed a little blood per anum, and his cough increased both in frequency and severity. He made an unsuccessful application for admission into an hospital, and afterwards became a patient of the Surrey Dispensary. On examination of the chest I now found the right side considerably enlarged, and the width of the intercostal spaces increased; it was also dull on percussion throughout its whole extent, and destitute of respiratory murmur, excepting at the apex of the lung; the voice appeared feeble and distant. On the left side the resonance on percussion and of the voice appeared natural, and the respiration was rather puerile. The sounds and impulse of the heart were rather feeble, and the rhythm natural. From this examination, the history, and the general symptoms of the complaint, I had no hesitation in deducing the following diagnosis:—"Empyema of the right pleura; no important disease of

the left side of the chest; there exists no physical sign of tubercles in the lungs." He now was generally in bed, lying on his back, rather inclined to the right side, and he suffered from dyspnœa when he turned to the left side. His cough was not very troublesome, nor was he, when quiet, inconvenienced by difficulty of breathing; he suffered no pain, slept well, and ate heartily. He was ordered repeated blisters to the right side, and small doses of the milder preparations of mercury, in addition to his other medicines. The effusion notwithstanding progressively increased, and the little respiratory murmur heard in the apex of the right lung soon altogether disappeared. About seventeen days before his death he began again to complain of "fluttering and palpitation" in the umbilical region and scrobiculus cordis. This was in a few days succeeded by paroxysms of pain in the same part, at first recurring once in eighteen or twenty-four hours, and so severe as to destroy his rest and to exhaust his strength. The abdomen was repeatedly and carefully examined, but no tenderness, hardness, or tumor, could be discovered; a little flatulent distension alone appeared to exist; he had no sickness; the tongue was not red, but moist and very slightly furred; the bowels were easily acted upon by castor oil, and the evacuations were tolerably healthy; his urine was rather scanty, loaded with salts, and not coagulable by heat. Hyoscyamus and camphor, morphia, hydrocyanic acid, and opium, galbanum pill and opium, with fomentations and mustard poultices, were successively but ineffectually tried for his relief; but he appeared to derive a little temporary benefit from draught of liq. opii sedativ. and sulphuric æther. The paroxysms nevertheless soon increased in severity, frequency, and duration; they came on at irregular intervals, and appeared to have no connexion with his meals. His diet was frequently changed without advantage, and his abdomen minutely examined without discovering any cause for his sufferings. His appetite now began to fail, and his powers began to sink rapidly. About a fortnight after these severe paroxysms of pain appeared, I, on one occasion, found him with a coated tongue; a hot skin; a frequent, sharp pulse; and a tender, swollen state of the abdomen; all of which symptoms had appeared the night before, after a fit of greater than ordinary severity. Eight or ten leeches and hot fomentations were ordered to be immediately applied, and calomel and opium to be administered; but he expired in one of the paroxysms, before either had been obtained, about the middle of January 1839.

Inspectio cadaveris, 20 hours after death. — External appearances:—The body was considerably emaciated; there appeared an unnatural roundness and fulness of the right side of the chest, and some distension of the abdomen. The head was not opened. Chest:—The right pleura contained about three quarts of thick yellow sero-purulent fluid, and was lined with a soft, uneven, flocculent membrane, two broad bands of which passed between that lining the parietes to that covering the diaphragm. The right lung, about the size of a healthy spleen, firm, purplish black, and quite destitute of air, was confined by adhesions to the posterior mediastinum and spine. The left pleura and lung were healthy, with the exception of a little emphysema in the apex of the latter. The bronchial membrane was also thick, turgid, and opaque. The heart and pericardium were free from disease. The peritoneum was not much injected, but contained a few ounces of turbid purulent serum. The convolutions of the intestines were adherent by very tender, recently effused false membranes, some shreds of which were also found upon the convex surface of the liver. The mucous membrane of the stomach was soft, thick, and discoloured in patches, and presented marks of former ulceration. The pylorus was thick, hard, and semitransparent; but the opening through it was not at all contracted. Connected with the duodenum was now discovered a tumor nearly as large as the adult fist, arising from an enlargement of the head of the pancreas, and adhesion of some neighbouring intestines. It was unfortunately cut in removing it; but, on attentive examination, it was evident that not only was the right extremity of the pancreas enlarged, and softer and less distinctly glandular than natural, but that it had ulcerated into the duodenum, a portion of the natural parietes of which, to the extent of about three inches square, had entirely disappeared, the deficiency being supplied in part by the head of

the pancreas, and in part by adventitious structure, like condensed cellular membrane. Beyond this, the mucous membrane terminated in a smooth rounded fold; and about an inch from this fold was a circular spot, the size of a shilling, from which the mucous membrane had been entirely removed. The edges were here also rounded, smooth, and even, and the surface quite healed. Both appeared to be of considerable standing. The pancreatic and common choledic ducts terminated upon the new surface of the duodenum, about three quarters of an inch apart. They appeared healthy, as were all the other organs of the abdomen.

The condition of the duodenum in the preceding case is not only unusual, but when regarded in connexion with the symptoms existing before death extremely difficult of explanation. The circumstances which create a difficulty in understanding the progress of the complaint are the following:—Every portion of the ulcerated surface was perfectly healed; the disease, therefore, was of considerable duration. The man had enjoyed uninterrupted good health till about five months before his decease. The symptoms referrible to this complaint were apparently very disproportionate to the great extent of the disease. He had suffered in the early part of his illness only from a feeling of "fluttering" at the scrobic. cordis, and some not very severe vomiting, both of which were removed in a week by aperients and simple effervescing mixture, and it was not till rather more than a fortnight before his death that he was attacked with paroxysms of severe pain occurring at irregular intervals, and unaccompanied with vomiting, costive bowels, diarrhœa, loss of appetite, or any other symptoms of serious affection of the alimentary canal. When, conjoined with these facts, it is recollected that rapid emaciation, a state of constant suffering, almost continued vomiting after taking food, and its frequent occurrence at other periods, not uncommonly result from very slight ulceration of the mucous membrane, the circumstances connected with the case related are, I think, not easily explained or even understood. I must also confess my inability to comprehend the cause of the paroxysms of severe pain which my patient suffered several days before his death, as, though they were without doubt in some way connected with the disease of the duodenum, or the adhesions and contractions resulting from it, they were never affected by the time of taking or by the quality of his food, and were unaccompanied with the symptoms usually attending extensive disease of the stomach and bowels. In reference to the empyema, it may perhaps be inquired why, seeing the symptoms of the disease were so decided, the operation of paracentesis was not performed. In reply to this supposed inquiry, I observe, without intending either to deny its desirableness or necessity in some cases, or to enter at any length into a consideration of its efficiency as a means of cure, that from the recorded experience of others, from my own observations, and from circumstances connected with the pathology of the disease, I am induced to believe that the operation of paracentesis in empyema is not generally to be recommended for the purpose of cure; that the disease should be attacked by constitutional and milder topical remedies; that this should be the rule of treatment; that paracentesis should be the exception; and that this exception is indicated by certain peculiarities in the history of the case. I am aware that the operation is favourably regarded by some practical men, and that in a note attached to the article "Empyema," by Dr. Townsend, Dr. T. Davies has given a table of ten cases in which the operation was performed, of which only two died *. But I am also aware that many cases recover without the adoption of this extreme measure. Dr. Stokes states that he alone has seen twenty examples of recovery without operation. I have myself very rarely, if ever, seen a perfect recovery after paracentesis had been performed, or, indeed, a favourable termination, unless in those cases in which the fluid was already making its way externally Nor, indeed, can I suppose that a perfectly favourable issue can often be reasonably expected when the condition of parts involved in the disease is examined. In many cases there are several quarts of fluid effused; the fluid itself is of an unhealthy character—im-

* It should be observed that five out of these eight successful cases were under six years of age; that all the cases of pneumothorax and hydrothorax were unfortunate; and that the *grand* total is eight recoveries to fourteen deaths.

pure pus—turbid sanguinolent serum—or a combination of the two; the parietes of the sac are not merely lined with false membranes, but often coated with thick layers of flocculent unorganizable lymph; the lung is compressed—bound down by adhesions, and incapable of future expansion; the ribs have in some degree lost their elasticity; and the diaphragm has become in some measure paralyzed. An immense unhealthy chronic abscess is, in fact, the disease to be treated; and it is, moreover, an abscess the walls of which are incapable of collapsing, and from which, therefore, if the fluid is withdrawn, the space previously occupied by it must be in some measure filled by air. A simple case of empyema is, therefore, by operation converted into one of pneumothorax. The presence of air alone often induces fresh inflammatory action, the constitutional effect of which is sometimes sufficient to destroy the little remaining power of the patient. From the pressure being removed from the extremities of the vessels, the effusion will progress more rapidly, and, as in dropsy, reaccumulation may be expected in a comparatively short period.

I regard the disease, then, as a large chronic abscess, the walls of which cannot be approximated; and I believe there are few experienced surgeons or pathologists who would recommend such an abscess to be opened, or who would not rather advise general and topical remedies to be employed for the purpose of effecting absorption. There are, however, some cases in which I imagine the operation may be advantageously performed, with the intent of curing the complaint. They are those in which fluid has been rapidly effused from severe inflammation, whether arising from common causes or accident; in which the sufferer is young and of good constitution, and in which, both from the short duration of the complaint and from the signs afforded by percussion and auscultation, it may be fairly presumed that the lung is capable of expansion. In such cases it is possible, that after all acute inflammation has been reduced, the trochar may be employed with benefit. Yet it must be recollected that even such cases not unfrequently terminate favourably, without very active interference, although the inflammatory product should not be entirely absorbed. The following case may be quoted as an example:—

Case.—R. Hockwood, aged 26, a chimney-sweeper, of intemperate habits, received a severe blow on the left side, on Christmas eve, 1836. He suffered considerable pain in consequence, for some days: little or nothing, however, was done for his relief till I saw him, nine days after the accident, when he presented all the general and local symptoms of subacute pleuritis, with considerable fluid effusion. The lower part of the left side of the chest was tender on pressure, and exceedingly dull on percussion; the respiration was entirely inaudible, and the voice was distant and feeble below, but became somewhat shrill and trembling as the stethoscope was passed upwards. The superior part of the left, and the entire right side, appeared healthy. He was bled, cupped, frequently blistered, and mercurialized, with benefit as regarded his general symptoms and his local sufferings, but without the effect of removing the effused fluid. In about six weeks or two months, three or four chronic abscesses appeared in the vicinity of the scrobiculus cordis and the diseased side. They burst, discharged some healthy pus, and healed spontaneously. In about ten days after this, a more diffused swelling attracted notice, over the cartilages of the superior false ribs. This was not interfered with, and in a few days it also burst, and discharged a considerable quantity of sero-purulent fluid. A tent was introduced into the wound, to prevent its healing, and a poultice applied.

The cough, which had hitherto been pretty constant, was much relieved, and the local uneasiness decreased. For several weeks the wound allowed the gradual escape of fluid. It afterwards healed and opened several times. When there was no opening, or one not sufficiently large to allow the escape of the fluid, the cough generally became more troublesome, and muco-purulent matter was freely expectorated. I was, however, never able to discover any decided evidence of communication between the pleura and the bronchial tubes. He now and subsequently suffered very little from his complaint. I administered tonics freely, and allowed him a liberal supply of nutritious diet; and after several months, as his strength was restored, as he had

but little cough, and there was very little discharge from the wound, I discontinued my attendance. I have since heard, that about a week after I ceased to attend him, the wound spontaneously healed, and has now for seven months caused him no inconvenience, and that he has been constantly engaged in his trade. I saw him on the 7th instant, when he told me he was as well in health and as strong as at any former period of his life, though he had still some cough, accompanied with expectoration, which was occasionally tinged with blood. He appeared quite as stout and vigorous as when I first saw him, more than two years ago; and from his thick coating of soot, must, I supposed, have been that day actively engaged in his business.

But though the operation may be rarely advisable as a mode of cure, it may be exceedingly important as a remedy for the relief of distressing symptoms—as when a considerable accumulation of fluid, by its pressure on the healthy side or upon the heart, causes great dyspnœa and an intolerable feeling of suffocation. In such cases, it is evident that a small quantity of the fluid may be removed, not only without injury but with very great advantage. In the case which has given rise to these observations, I supposed that the lung had collapsed, and, by being covered with lymph and bound down by adhesions, was incapable of future expansion. The examination after death proved the correctness of this opinion. I therefore thought that the operation for the purposes of cure was not warrantable, and that as the patient really appeared to suffer very little from the presence of the fluid, and never, on a single occasion, complained of any inconvenience in consequence of, or directed my attention to, the disease of the pleura, I considered that with the view of affording him temporary relief it was unnecessary.

But there are circumstances in which empyema has appeared to me to be rather advantageous than otherwise; if, indeed, the mere continuance of life in a hopeless state of disease may be considered an advantage. The prognosis of empyema is, of course, rendered more unfavourable by the co-existence of phthisis; but I have, on more than one occasion, had reason to believe that the life of patients labouring under phthisis has been unexpectedly prolonged, and that the progress of the complaint has been notably retarded by the occurrence of empyema. Dr. Stokes has already remarked the arrest in the progress of some cases of phthisis by the occurrence of pneumothorax and empyema, and has related the case of a patient who lived for thirteen months after the existence of pneumothorax had been clearly established. A much more remarkable case, however, has lately occurred in the practice of my friend and colleague, Dr. Barlow. Here the patient, a young woman, though she was, when first seen by him, apparently in the last stage of phthisis, lived (and generally in a tolerably comfortable condition) for *three years and a half*. When she first came under his care, there existed decisive evidence of pneumothorax and empyema, as proved by metallic tinkling and splashing of the fluid, which was distinctly heard by the patient and her friends, as well as by her medical attendants. During three successive summers she gained flesh, and occasionally walked out; and during three successive winters became seriously ill, and was confined to bed. When, at length, she died, one lung was found to be perfectly useless for the purposes of respiration, being reduced, by previous ulceration and compression, to a very small size, and being perfectly solid, and incapable of admitting air. The other lung was almost entirely occupied either by phthisical cavities or softening tubercles. A very small portion of this lung was alone crepitant, and death appeared to have at length resulted from this portion having become œdematous.

What has been observed by Dr. Stokes, and was so entirely confirmed by the remarkable case of Dr. Barlow, in reference to phthisis and pneumothorax, has appeared to me to be qeually true respecting phthisis combined with empyema. The cause of this retardation of disease, at first sight, appears sufficiently easy of explanation; but I believe that upon more minute consideration it will be found not unaccompanied with difficulties; but for the present, at least, I must defer any examination oft his subject.

CASE OF POISONING BY GIN.

To the Editor of the Medical Gazette.

Sir,

I beg to inclose notes of the case of poisoning by gin, alluded to in the London Medical Gazette of the 11th ult. and shall be obliged by your giving them a place in a forthcoming number, should you consider them of sufficient interest.—I remain, sir,

Your obedient servant,

W. D. Chowne, M.D.

14 *a*, Princes Street, Cavendish Square,
May 13th, 1839.

March 17th, 1839.—A lad, of between 7 and 8 years of age, obtained access to a bottle containing some gin. In about twenty-five minutes after, he appeared to be slightly affected. He was left alone for a space of about five minutes, at the end of which time he was found lying on the floor insensible, with his nose bleeding. He was in such a position as to leave no doubt that he had fallen from a chair near the cupboard in which was the gin-bottle. The chair did not stand there when he was left alone, and he must have placed it there.

The lad, very soon after he was found, threw some fluid from his stomach, which, according to the statement of his father, smelled of gin. He was put into bed and kept warm, but no medical treatment was adopted.

At 1 o'clock P.M. (five hours after the spirit was taken) a medical man saw him. At this time, according to his father's account, the tongue appeared to swell, the child groaned and seemed dreadfully oppressed. The quantity of gin that he had taken was computed at half a pint. An emetic was given, and the child was put into a warm bath, but, neither producing any visible effect,

At 3 P.M. (seven hours after the spirit had been taken) he was conveyed to the Charing-Cross Hospital, where he became my patient, and was seen by me about fifteen minutes after his arrival; in the interim warm water had been passed into the stomach and withdrawn by means of the stomach-pump. The fluid had not the odour of gin, nor of any thing peculiar, neither was there the odour of gin in the breath.

The lad was perfectly insensible and motionless; the limbs relaxed and powerless; the face pale; the general surface pallid, and below the ordinary temperature; the pulse very small, feeble, and 144; pupils contracted; the exclusion of light by the hand did not produce dilatation; the breathing was rather slow, difficult, and decidedly stertorous; there was involuntary urging of the stomach, by which a small quantity of fluid and saliva drained from the mouth; this had no peculiar odour. The bowels had not acted. Whether urine had passed was not known.

The child's general appearence conveyed the idea that he was sinking rapidly, except that the countenance was peculiarly placid, and free from the expression in persons in *articulo mortis*; indeed, the face did not correspond with the general symptoms, but formed a striking contrast to them.

He had three leeches applied to each temple, a purgative dose of calomel, a cathartic enema, an application of liquor ammonia to the scalp, a blister behind each ear, and mustard cataplasms to the feet: he had also a mixture of ammonia and camphor. He was placed with his head and thorax raised on pillows.

11 P.M. (fifteen hours after the spirit was taken.) The bowels have been opened, and urine passed, both without consciousness. The scalp red and slighly vesicated; the feet also red from the mustard cataplasm; the leech-bites bled moderately; general appearance the same; the breathing still stertorous, but with the addition of mucous rale in the thorax; the irides still contracted; the eyes shewing no signs of sensibility; the limbs still motionless and powerless; the skin prone to be cold; nothing elicited signs of consciousness; the pulse rather improved in strength, and still 144; the countenance still free from expression of anxiety, or uneasiness of any kind. The mixture to be continued; the body and extremities to be kept warm; the irritation of the scalp to be encouraged; and the elevated position of the head to be continued.

18th.—½ past 12 P.M. (twenty-eight hours after taking the spirit.)—The general appearance improved; the eyes occasionally opened, the pupils still contracted; no expression in the eyes of consciousness; the face and general surface still pale, and prone to be cold; the expression of the face still calm,

free from anxiety, and peculiarly placid; the paleness of the face not of a livid character; the stertor of breathing diminished, but the effusion in the air-vessels of the lungs increased; the mucous rale increased, and extremely audible over the whole chest; the limbs still relaxed; the pulse still small and rapid. The treatment to be continued, with light nourishment and coffee.

½ past 10 P.M. (38½ hours after taking the spirit.)—The eyes open, still better; the pupils less contracted; the irides more mobile. There is a look almost of consciousness; face and general appearance as at the last visit; the stertor still less; the mucous rale not diminished; pulse rather firmer, still quick, 144.

19th.—½ past 12 P.M. (52½ hours after taking the spirit.) The general appearance, at first sight, much improved; the eyes open quite well. The lad looks about him with seeming intelligence; and although he does not reply when spoken to, his declining to answer appears to be rather from disinclination than from incapability. The symptoms of coma have subsided in a very marked degree; the stertor still less than yesterday, and reduced to almost nothing; the lungs, however, appear to be even more loaded; the mucous rale extremely loud and general; the breathing rather shorter; cheeks rather flushed; skin generally hot and dry; pulse much more rapid, from 160 to 180, but still distinct. He continues to take his medicine, and occasionally some tea and arrow-root. Limbs still relaxed and powerless; shews no sign of volition. In this the contrast is very striking between the seeming intelligence of his look and the inactive state of his will. He does not make the least effort, although he looks as if he could do so without difficulty. Has passed motions and urine since last night, both involuntarily.

4½ P.M. (57½ hours after taking the spirits).—In nearly the same state as at last visit, except that the cerebral symptoms are diminished, and those connected with the respiration are increased, the lips slightly livid, respiration laboured. The mucous rale still more intense, and may be heard by bringing the ear near the chest, without contact of the ear or aid of the stethoscope.

To have a blister between the shoulders; rubefacients on the anterior part of the thorax; to continue arrow-root, &c.

March 20th, 3½ A.M. (67½ hours after the spirit), he died.

Through the whole period there was neither delirium, injection of the conjunctiva, convulsion (or tendency to convulsion), peevishness, or even anxiety of countenance.

Post-mortem appearances, about twelve hours after death.

External appearances.—The scalp free from any appearances of injury. The surface of the body perfectly natural, and without discoloration. No appearance of injury any where. Expression of face placid.

Head.—On removing the scalp, no unusual redness discovered on its inner surface, nor any on the pericranium.

The dura-mater rather more tense than usual; the arteries more visible; the blood within them rather more florid; in other respects natural.

No morbid adhesions between the dura-mater and the arachnoid. No escape of fluid.

The tunica arachnoidea more than commonly vascular. No coagulable lymph or other product of inflammation. Very slight pearly appearances, but not enough to indicate that inflammation had taken place.

The veins of the membrane distended with dark blood; those corresponding with the temporal regions especially. The veins on the anterior part of the membrane full, as well as those of the other parts; the fulness, therefore, not the effect of gravitation after death.

Base of the Cranium.—On removing the brain, a very small quantity of fluid (serum, tinged with blood) in the fossæ of the base of the cranium; the quantity so small as to appear to be only what oozed from the vessels during the removal of the cerebellum: it appeared to accumulate during the process, the quantity not exceeding from two to three drachms.

The under surface of the brain natural. Upon making sections of the medullary substance, not more than the usual points of blood, nor indeed more than might consist with a healthy and vigorous state of brain in a child of the patient's age.

The quantity of fluid in the lateral ventricle natural; the vessels rather

fuller; the blood within them more florid; the plexus choroides more than commonly full and florid; neither coagulable lymph, turbid fluid, nor other sufficient sign of inflammation; the left lateral ventricle in every respect like the right; the other parts of the brain, including the cerebellum, healthy in appearance. No odour of gin, or any peculiar odour, in any part of the brain.

Chest.—No effusion or other sign of disease in the cavity of the pleura. The lungs on the parts first presented to view natural; the posterior and under parts dark and congested; the congestion probably commenced prior to death, and increased after from gravitation. There was no disease of the parenchyma. The trachea and bronchial tubes full of frothy, turbid fluid; the lining membrane of the air-passages natural, with the exception of a slight blush at the upper part of the trachea, so slight, however, as not to warrant any inference. The heart quite healthy; contained a small quantity of dark, coagulated blood, with some coagulated lymph. Scarcely a drachm of fluid in the pericardium: this was healthy.

Abdomen.—Neither serum, pus, nor coagulable lymph, in the abdominal cavity. The stomach empty; its outer surface rather paler than usual; no remarkable vascularity of any part; the inner surface uniformly pale, and free from patches or discoloration, except a portion about the size of a child's hand, near the cardiac orifice, with very small vessels visible in and under the mucous coat; the form arborescent; colour florid; this appearance, however, only such as is commonly seen, and such as may be the consequence of abstinence, or of the irritation of food; nothing beyond the vascularity of the part that resembled inflammation; the stomach in every other part healthy. The liver healthy. The gall bladder full and distended; the contents natural. Spleen and kidneys healthy. The intestinal canal natural; some parts more vascular and of deeper colour than the rest, but still presenting nothing that is not commonly found in most subjects.

Surfaces of the viscera.—On all the surfaces a tendency to dryness. Those of the brain, the lungs, the heart, and the intestines, becoming so dry immediately on exposure to the air, as not to communicate the least moisture to the finger.

HUMAN ANATOMY AND PHYSIOLOGY,

As understood by the Chinese.

By G. Tradescant Lay, Esq.

[*For the Medical Gazette.*]

After some reflection upon the subject, the easiest hypothesis which I can frame, to account for the notions which the Chinese entertain respecting the parts and economy of the human system, is, that they are the fragments of a more perfect type (ὑποτυπωσις) or exemplar. My reasons for thinking so are these:—Firstly, they seem not for many ages to have opened a body; so that subsequent writers, when they attempted to transfer the views of more ancient writers into their own works, were liable to fall into the greatest mistakes, as having no experimental conception of the thing, either to set them right or keep them from going wrong. Secondly, they are not very careful in copying nor printing the books and plates illustrative of anatomical subjects, as will appear by a collation of several editions or abridgments of the same work. Thirdly, a little research among their antiquities has taught me that they made a good beginning in the rudiments of several sciences; among the rest, we find that they considered musical intervals, in reference to the lengths of a vibrating chord, or a column of air undulating in a resonant tube; and expressed their proportions arithmetically, or in numbers. They did not derive this knowledge from the Jesuits, because these intervals belong to melodies peculiar to their own instruments. I am, therefore, willing to allow that the ancient Chinese were better theorists than their descendants, and had some ideas of nature and truth to which the latter are strangers, and others which they have copied in a very confused and imperfect manner.

In a large Encyclopædia which I have, I see there is a classification of the different kinds of nose, mouth, and ears; but whether they had any thing like the science of physiognomy, I am not able to say with certainty, though I suspect they had, for they commonly detect the peculiar features in a stranger's character with amazing sagacity and quickness. Ill health has obliged me to play the truant with my Chinese studies, so that I have not been able to

look further into the matter. The same reason will render this communication a mere outline; yet I hope, as it is drawn from original sources, and not borrowed, it will not be unworthy of publication.

In describing the human skeleton, the Chinese take no notice of the bones in the wrist and ankle; and as to the phalanges of the fingers and toes, the radius and fibula of the forearm and leg, they seem to have been either forgotten or considered as unworthy of any mention. Some pains, however, are taken to represent the vertebræ, though they seldom exhibit the true number, but this is a small matter where such strange deficiencies exist. The atlas is represented in one drawing I have as very long, and is honoured with a distinct name. The spinal tube is well marked, and there is special reference to the spinal marrow, as running up from the os sacrum and expanding itself within a cavity in the head, which is called the *sea* or conceptaculum of marrow. If, for the sake of preserving an analogy with the lower animals, we consider the brain as a multifarious expansion of the spinal cord, this is not much amiss, if we can forgive the utter want of details. To call the brain or its cavity the sea is an ambiguous way of speaking, for the sea is the source as well as the repository of all the rivers; the latter, however, is more likely to have been the sense in which they used the term. Now if we consider the brain as the expansion of the spinal marrow, or rather (as comparative anatomy would seem to teach us) the aggregate of many pairs of nerves variously unfolded at their common termination or point of union, this way of speaking would be as true in philosophy as it is figurative in language. The true ribs, sternum or breast-bone, the clavicle, the scapula, though without the spine and its continuation, the acromion process, are tolerably represented both in figure and situation. Their ideas of the pelvis are of a multiform and proteus kind: sometimes it expands about the base of the abdomen, like the short tail or skirt of a vest; at others we see a diverging arm on each side below, to be articulated with the thigh-bone; and now and then a process depending between the thighs, which may be either the os coccygis or the two tuberosities of the ischium, as there are two points upon the lower edge; or any thing else a charitable construction may allow. They are unfortunately two well acquainted with the shape and the important functions of the knee-pan; for, by the removal of this they sometimes teach offenders the difference between good and evil. In the refinement of Chinese criminal legislation, every specific offence should be followed by a specific penalty, that the people may be instructed nicely in the great particulars of their duty; hence the variety, and, in our opinion, the atrocity of their sanctions.

The attention of the Chinese anatomist is mainly diverted to the structure and use of the parts within the trunk, for upon these all the vital functions depend, without any control or interference from the brain. Care is taken to mark the two passages into it—the larynx and pharynx, with their respective continuations, the windpipe and the gullet—the one as the *road* for the *air*, the other as the *road* for the meat and drink. The trachea is uniformly represented as having a certain number of rings from the top to the point where it enters the lungs, but without any bifurcation or bronchia. It passes through the lungs on its way to the heart *—a very compendious method of dispensing with the aid of four pulmonary veins, as the vessel or artery is simply a continuation of the trachea. We may therefore suppose that the air boldly enters the heart to mingle itself with the blood, instead of coquetting among the bronchial tubes and air-cells. The lungs are represented as having six lobes, two on one side and three on the other, with one in the middle; uniformity, however, is not always maintained in this respect. They are sometimes called leaves, and have the ovate or most common form of a leaf, for easier recollection. From the point where the trachea enters the heart, three tubes (?) issue; one goes to the spleen, another to the liver, and a third to the kidneys. I have put a query against the name tubes, because they are sometimes denoted by a term that merely implies a thread. We may assume, I think, that the old teachers had traced the connexion of these organs with the heart through the medium of the arterial and venous systems; but their successors,

* Gutzlaff, in his analysis of a Chinese medical work, calls the trachea the aorta, because it enters the heart.

remembering only the fact, without any of its circumstances, made short work of it, by joining or bracing them at once to the heart, just as in another place we see the correspondence between that organ and the principal air-passage is exhibited merely by extending the trachea till it enters a hole in the top of a kind of hemispheric lid. In a figure given among the illustrations of a Japanese Encyclopædia, belonging to Mr. Medhurst, these tubes, with the œsophagus, are represented as passing through a plane, which we may suppose is meant for the diaphragm, with their appropiate names placed just under the point of transit.

The spleen seems to have been regarded as an important auxiliary to the stomach in the business of digestion; perhaps as acting the part of a secreting organ; hence it is displayed as lying upon the top or dorsum of the stomach, with the omentum hanging like an apron or lappet from it. Now there has been such a diversity of opinion respecting this organ among ourselves, that we may easily let the Chinese enjoy their own views about its functions, though I have little doubt but comparative anatomy will in time help us to a right conclusion. My attention has been on several occasions directed to the Medusæ and their related groups, with the view of improving my ideas of their structure, arrangement, and general history. In most of them we find a number of ampullæ, cæcal appendages, or blind worm-like vessels. In some, these form a conspicuous and beautiful object; in others, the aid of a strong magnifier is necessary to bring them to light. As these are connected with the anastomosing system of circulation, I apprehend that they serve as depositories of the nutrient fluid, which reservoirs in them till it is animalized, or has acquired a tendency to organize. May not the blood during its sojourn in the spleen undergo a change somewhat analogous to that when it is forced back towards the stomach through the gastria inferior and vasa brevia? if such a supposition is admissible, it is in a state better fitted for secreting the gastric juice. If this view of the matter be just, our Chinese physiologist was not far from the mark in his guesses, when he called it a *viscus* that *waits upon* another.

The stomach is represented as extending from the back towards the belly. The cardiac entrance and the pylorus have each of them an appropriate name; the former, towards the back, is called the bulged or swollen entrance; the latter, a little above the navel, the secret passage, from its comparative smallness. There is no notice taken of the duodenum, so that the ductus choledochus communis has no existence. The pancreas is in the same predicament, such care have they taken that man should have no resemblance to some of the finny tribe, where this organ attains a prodigious size. We are at once, then, without any ceremony introduced to the *small* intestine, which winds about an imaginary navel or axis in a very elegant manner. It is connected at its lower end by a peculiar *joint* to the *large intestine*, which winds about a perpendicular line of rotation in the same manner, and differs from the former only in having a larger bore. If these be considered as the jejunum and ileum, we have no representative for the colon, and its appendage—the cæcum, for the *large intestine* terminates in the *straight intestine* or rectum. The *joint* or point of communication between the large and small intestine deserves no small degree of emphasis, because it is from this ring that a halitus oozes out, which is collected by the urinary bladder, and then becomes properly urine. The words used to convey this statement are charming and appropriate; one could only wish that they had been used to a better purpose. The urinary bladder is usually represented as very large, with its fundus towards the point of junction between the two different kinds of intestine, and half concealed by the latter, while it terminates in a neck resting upon the pubes.

The generative fluid is secreted, it would appear, by the kidneys, and conveyed towards the pubes by a canal, that is differently represented in different figures. The vas deferens is represented as issuing underneath the urethra, but no notice is taken of their union. The Chinese castrate the males, and spay the females, among their domestic animals; and I believe the former is a punishment for those who have been more free than welcome with the royal concubines; but they do not attempt to remove the

kidneys, but set about the operation in a way much more pertinent to their purpose. The doctors only have the privilege of being dunces in this matter.

The liver has five leaves or lobes, upon one of which the gall-bladder rests, and I suppose communicates with the heart through the liver, to which it is attached.

I forgot to mention that the brain and spinal marrow are said to be within the domains of the kidneys, from which, I suppose, they imagine that the medullary substance is derived. A people unspeakably more acute and inventive than the Chinese knew nothing of the lacteals, but supposed that the chyle entered the liver by the common passage, and was from thence conveyed into the heart through the vena portarum. It is therefore no wonder that the Chinese should be ignorant of their existence.

The most perplexing and least satisfactory part of their anatomical outline is the circulation: first, because the tubes conveying the vital fluid are not traced to the heart; and secondly, because these tubes are distinguished by terms that have no clear and distinct meaning assigned to them. These terms are not strangers to those who have read a little about Chinese literature; yet among Chinese students I have not met with any who could give me more than an approximate definition of their meaning. The *yang* and *yin*, "*light* and *darkness*, *male* and *female*;" but what has this to do with the circulation? Light and darkness rule by turns throughout the mundane system, and male and female run throughout the most remarkable orders of animated nature; but in the microcosm of man, one would be glad to know under what modality they subsist, for we are not in quest of words but ideas. Our case is not, however, quite desperate, for if we traverse in our minds the different phenomena in which they are said to apply, we shall get the general and reciprocating ideas of *giving* and *receiving*. The sun bestows light, the moon receives it. In the sexual intercourse among animated beings, and by a similar provision in vegetable fecundation, the same ideas of giving and receiving obtain. If we apply them to the circulation, we have a proper distinction between the arterial and venous system: one gives the blood, the other takes it away; and *yang* will be an equivalent for arterial, and *yin* for venous. If we go a step further, and say, for the convenience of speech, that we have a secreting or glandular system on one hand, and a lymphatic or absorbing system on the other, the ideas *yang* and *yin*, *giving* and *receiving*, obtain in like manner. In this way I bring things to an issue; my statements are either true or false, and may be dealt with accordingly; they are not nonsense, which is the most untractable thing in the world.

To explain their views of the circulation as well as I am able, I will then take it for granted that *yang* meant arterial blood, with all the healthy secretions from the glands; *yin* venous blood, with the absorbent system. In this circulation or general economy of functions, the kidneys, bladder, gall-bladder, liver, spleen, and the *san tseaou*, to be adverted to presently, take a part either mediately through the heart, or directly, by particular tubes and canals; and here they fairly leave us in the lurch; for though we see vessels running from the fingers, toes, sole of the foot, in their appointed courses, and terminating upon the breast, under the arm, under the ear, near the site where the temporal artery is felt, at the internal and external corners of the eye, and upon the upper lip, we have neither words nor descriptive plates to tell us what way they communicate with the several internal organs. Here is a gap to be filled up by conjecture and inference in the best way we can. This I will do shortly, lest I should weary without instructing, by supposing that the kidneys, liver, and spleen, stomach, small and large intestines, &c. were considered as sending their contingents of *yang* and *yin*, positive and negative, first to the heart, and then all over the system. The theory may be exhibited in the short table annexed.

From this draught it will appear that the principal viscera in the trunk were regarded as having each a several share in the general economy of the human body by means of vessels that were arterial or secreting, *yang*; venous or absorbing, *yin*, through the medium of the heart, or centre of the circulating

Tubes	run from the	to the	
Yang ming	Great intestine	Hand	Through the heart.
Tae yang	Small intestine	Hand	
Seaou yang	Three tseaou	Hand	
Yang ming	Stomach	Foot	
Tae yang	Urinary bladder	Foot	
Seaou yang	Gall bladder	Foot	
Tae yin	Lungs	Hand	
Keue yin	Crown of the heart	Hand	
Seaou yin	Heart	Hand	
Tae yin	Spleen	Foot	
Keue yin	Liver	Foot	
Seaou yin	Kidneys	Foot	

system. For its consistency with truth, or with itself, I make not myself responsible, but all the while assume that it is at best a sorry travesty of what was once an approximation to nature and reality. The qualifying epithets, *tae*, great; *seaou*, small; *ming*, clearness or sheen; *keue*, dichotomized, or like the moon in her quadratures, have a reference, it would seem, to the size and form of the bore compared with the whole diameter of the tube. This indicates that some of the old teachers had observed the differences between the coats of the arteries, veins, lymphatics, ducts, &c , and thrown them into a kind of classification, while their scholars have faithfully preserved the names without any specific notion of the thing.

The *san tseaou** are not represented, because the moderns say they do not know their figure. From some loose expressions I am encouraged to suppose that the right and left auricles, and the aorta, were the three (*san*) things originally referred to as forming three important points upon the venous, arterial, and pulmonary vessels of circulation. I will not insist upon this view, but shall be willing to give up my opinion when I can find a plausible reason for so doing†. The generative fluid is produced by the action of the heart, followed by that of the spermatic orifice, and a secretion or distilment from the air or oxygen of the *san tseaou*. The vital air is supposed to traverse the whole system, not as it does in the tracheæ of insects, but in combination with the blood--a circumstance I ought to have mentioned before.

The nervous system, if it ever entered their notions, was doubtless confined to the sympathetic and intercostal. Man had no more dignity in this respect than a snail, or any other molluscous animal, where the nerves run up and bulge out into little knobs or ganglia about the œsophagus. All the resolves of the will, as well as the evolutions of feeling, had their seat within the trunk, whence the threat, " he shall not enjoy quietness in his belly." Among the Chinese the heart is the reputed tabernacle of the spiritual part, but the other viscera contribute their quota in the functions of the mind, some of them in a way that is altogether material, as the *san tseaou* and urinary bladder, for example. To assign to each one of them in theory their proper office is a fundamental point in this part of abstract philosophy, and constitutes the portal that introduces us into the temple of their *mataphysics*. I had been led to suppose that they had not the elements of this science till I found traces of it in their medical and anatomical works. Its development will form a curious subject of research if health and life last, for if it is valuable for nothing

* There is a remark upon one of my anatomical plates that can only apply with any thing like truth to the ureters, vesiculæ seminales, and prostate gland, which, after all, perhaps, may be the organs in question.

† From an expression under my eye, which, in the elegance and fulness of the language, seems to refer to ducts and fluid, the *san tseaou* may refer to the pancreas.

else than antiquarian interest, it will be worth investigating.

The order of the lungs and large intestine is gold; the order of the heart and small intestine is fire; the order of the liver and gall-bladder, wood; the order of the spleen and stomach, earth; the order of the crown of the heart and the *san tseaou*, water. In the common way of translating, the several viscera are made out to be of the materials just mentioned respectively, which gives the Chinese philosophy a most whimsical and absurd appearance. The five musical notes and the five of the strings of a Chinese lute, are, the former in a general work of 44 vols., the latter in an elementary work on the instrument, in 4 vols., said to correspond to gold or metal, fire, wood, earth, and water. The word rendered material in dictionaries has an abstract sense, and refers to the essential characteristic of an object, and not merely to the stuff or substance of which a thing is made. A Chinaman saw that the number five and its multiples were of very frequent occurrence in nature, as the most perfect quadrupeds have *five* fingers and *five* toes; the most perfect plants have *five*, and its replication in the parts of the blossom; and the most perfect insects have *five* joints in their foot. From thence he took the hint, and cast things that were the subject of contemplation and theory, into five categories or predicaments. Whether he was right or wrong in placing every thing under quincuncial arrangement, the inductive philosophy can teach us. At any rate, we should study and carefully collate the books which antiquity has left before we conclude that there is nothing in them but what is either absurd or useless. When he tells us that the liver gives rise to such and such thoughts, he speaks in the style of his *metaphysics*; when he couples gold with any object, he uses a technical term belonging to his *logic*. The time is coming when we shall endeavour to understand this people and their literature like wise philosophers, and labour to do them substantial good, like honest men and christians.

DR. BIGSBY
ON THE
MEDICAL RELIEF OF THE POOR.

To the Editor of the Medical Gazette.

SIR,

I SHALL be obliged by your inserting in your valuable periodical a few facts (with reflections thereon), which I have collected for the purpose of ascertaining some important points connected with medical relief, as administered by law, in the counties of Nottingham, Leicester, and Lincoln.

Living in daily and close observation of a rural community, under the full operation of the new Poor-law, I am free to declare myself decidedly favourable to its principle, and to most of its details; though not to all, as you will perceive; and I desire only to assist the Commissioners in their high, and, upon the whole, well executed task of preserving a nation from destitution, crime, and anarchy.

The materials on which I ground my remarks were obtained at my solicitation, from the kindness of the chairman or clerks, and medical officers, of certain midland unions. I have pleasure in stating that I met with the utmost openness of communication; but I took care to seek for the *public* information alone which is printed for circulation in the quarterly abstracts of expenditure and relief.

I now present to you, in the form of two tables, some interesting particulars respecting the medical aid afforded by twelve unions, in the three counties just named, in the year 1838.

The most striking circumstance on the face of Table No. 1, as it appears to me, is the small number of sick actually attended by the medical officers of unions. It is one-nineteenth of the population in the largest proportion (Bourn) and one-sixty-first in the smallest.

This fact becomes still more conspicuous, if we look at the separate districts. I shall now present you with the results of my examinatiom of eight.

The proportion of sick relieved by the Union to the general population,

TABLE I.

UNIONS.	Population in 1831.	Cases.	Deaths.	Proportion of Sick relieved to Population.	Proportion of Medical to General Expenditure.	Salary per Head of Population.	Remarks.
Bourn (Lincolnshire)	17174	906	..	1-19	1-20	$2\frac{3}{4}$	
Loughborough (Leicestershire)	17969	868	47	1-21	..	$1\frac{1}{4}$	Only one district given, and workhouse.
Nottingham	50680	2219	..	1-23	..	..	Medical officers are salaried, but do not find drugs.
Southwell (Nottinghamshire)	23235	888	..	1-26	1-25	2	
Newark (ditto)	25089	894	..	1-28	1-19	$2\frac{3}{4}$	
Altrincham	8893	270	30	1-33	..	$1\frac{3}{4}$	Chester county (one district).
Grantham (Lincolnshire)	14159	406	51	1-35	1-26	$2\frac{1}{4}$	Grantham, Ancaster, and Bottesford districts only.
Sleaford (ditto)	19832	548	64	1-36	1-33	$2\frac{1}{4}$	
Lincoln	3945	104	..	1 38	1-27	$1\frac{3}{4}$	Navenby, Metheringham districts only.
Retford (Nottinghamshire)	20071	452	..	1-44	1-21	$2\frac{1}{3}$	
Bingham (ditto)	14773	291	21	1-51	1-18	$2\frac{1}{4}$	
Worksop	16111	264	..	1-61	1-32	2	

N.B.—To ask for the number of deaths was an after thought, and therefore not always obtained.

TABLE II.

No.	District.	Range in Miles.
	Loughborough Union.	
1	Loughborough	7 by 7½
	Sleaford Union.	
2	Sleaford	8 .. 3
3	Heckington	8 .. 6
4	Metheringham	11 .. 2½
5	Billinghay	6 .. 4½
6	Wellingore	4 .. 4
7	Falkingham	
	Grantham Union.	
8	Grantham	3 by 2½
9	Ancaster	7 .. 3
10	Denton	6 .. 4
11	Bottesford	5 long.
12	Coltersworth	10 .. 7
13	Ropsley	——
	Newark Union.	
14	Newark Parish	1 by 1½
15	Claypole	8 .. 7
16	Bennington	11 .. 3½
17	Bassingham	6 .. 4
18	Collingham	14 .. 2
	Bingham Union.	
19	E. Bridgeford	10 by 7
20	C. Basset	10 .. 7
	Altrincham Union.	
21	Altrincham	10 by 9
	Southwell Union.	
22	Southwell Parish	
23	Sutton, II.	7½ .. 5
24	Ollerton, III.	11 .. 3
25	No. IV.	8½ .. 3½
26	Lowdham, V.	5 .. 4
27	No. VI.	10 .. 1
	Retford Union.	
28	No. 1	10 by 4
29	2	12 .. 4
30	3	9 .. 4
31	4	12 .. 5
	Worksop Union.	
32	Worksop	12 by 3
33	Hartshill	9 .. 4
34	Blyth	5 .. 5
	Bourn Union.	
35	Bourn	10 by 7
36	Deeping	6 .. 5
37	Aslackby	8 .. 7
38	Corby	10 .. 4
	Lincoln Union.	
39	Navenby	3 by 3
40	Metheringham	4 .. 2
41	Wragby	12 diam.

In District No. 40, is 1-49th. In No. 11, is 1-61st.
42 .. 1-50th. 34 .. 1-70th.
3 .. 1-55th. 20 .. 1-84th.
4 .. 1-59th. 30 .. 1-105th.
} Vide Table II.

There may be a difference of opinion; but that medical relief by law should be extended to so small a fraction of the population does seem to me to be a very undesigned and unhappy state of things. Until I had completed this little inquiry, I thought that the new system had supplied to the agricultural parts of the country most of the advantages of the well-regulated dispensaries of towns, yielding aid in sickness to those who, in fact, are only able to provide for the wants of health, and I think that they can be shown to be annually one-fifth of the community, and not very far from one-half of the whole sick.

Newark, and the country around, to the distance of eight miles, contains 25,000 inhabitants, mostly the same individuals as those composing Newark Union, and always in precisely the same employments and other outward circumstances. We can therefore look upon them as one.

Of these 25,000 (whether in the union or within the circuit mentioned does not signify), 12,500 are every year sick, incapable of labour, and require medical aid, for a longer or shorter period. This calculation has been verified in a multitude of ways, and is now a universally acknowledged truth.

How are these sick supplied?

Of the helpless sick within our circuit, there go for *gratuitous* advice annually—

To the physicians	1400 *
To the general practitioners...	2200 †
To the Newark Dispensary ..	660 ‡
To the Union officers	890 §
	5150

or one-fifth of the population, or nearly

* This seems a moderate statement, and is founded on an accurately kept register in one instance, and upon general information in the others. The public is little aware how extensively some provincial physicians prescribe for the poor of their respective neighbourhoods—varying for each practitioner from 300 to 1500 per annum, independent of hospital or dispensary practice.

† The number here given is under the mark. It is at the rate of two per week to each, and includes not only the spontaneously gratuitous, but defaulters also. One surgeon in this neighbourhood alone attends 600 professedly gratuitous patients every year. I wish his modesty would allow me to mention his name. Surgeons are rendered more guarded by having to give medicines together with the advice.

‡ Vide Report for 1838.

§ Vide Table I.

one-half of the whole sick; the remaining 7350 forming the portion of society which remunerates the 24 medical practitioners of the circuit.

It appears, then, from these statements (which are sufficiently accurate for practical purposes), that legal medical relief with us at present reaches little more than one-sixth of the whole *destitute* sick*; nearly five-sixths being left to the charitable feelings of a profession which certainly does not luxuriate in the marrow of English opulence. Many reasons, applying alike to the patient and the public, might be advanced, why paid services should be used more extensively than at present. The gratuitous patient is seldom or never seen at home—always irregularly; the minutiæ of symptoms and treatment are apt to be neglected; there is no responsibility to man. So much, in a few words, as to the patient. As much may be said on public grounds, moral, economic, and statistical. The general amount of sickness would diminish very greatly.

Newark Union is now contracted for at the low rate of 2¾d. per head of the population, and the benefit to the sick is proportionately limited, although greater here than elsewhere; but new and wider doors should be opened by the union to proper objects, with a large increase to the salaries of the medical officers. Independent clubs may be called in aid, warmly encouraged among skilled workmen, with honorary subscriptions to raise the annual payments to a sufficient amount.

The Union of Newark is rather a favourable specimen of medical relief by law: that of Worksop does not accomplish half as much; it only attends to 264 sick out of 8000, who there annually require professional aid. In separate districts, the deficiency is sometimes, as we have seen, very striking.

It is not a satisfactory state of the body politic, where at least 5150 persons annually require eleemosynary aid. We cannot refuse it to them; the present sick have an implied right to, a vested interest in, the better feelings of human nature, for their immediate assistance. The remedy must be prospective, and apply to the young rather than the old. Discipline and mercy must go together—*pari passu*.

The earnings of the agricultural labourers in the midland counties are small. In 1835, the number of subscribers to the savings'-banks in Lincolnshire was only as 1 to 59. We abound, to my knowledge, with persons living from hand to mouth, with difficulty; and who *positively cannot* (unless by a severe economy, not to be looked for) provide for a lengthened illness; such as labouring families, with four children and upwards—sickly parents with fewer children—the numerous aged—the widows—single or married persons struggling to maintain parents (and they are numerous)—servants out of place—mistresses of small schools—petty tradesmen who have been unfortunate, sometimes most innocently and unavoidably—with many other classes of individuals whom I cannot here enumerate. In these counties the journeyman shoemaker works 14 hours a day for a mere pittance, as an average through the year. Of course, health flies. It is a daily astonishment to me how labouring families exist, four-fifths of the father's earnings being spent in flour alone sometimes.

Union medical relief is rendered inoperative by many causes. Sometimes these are local and peculiar, and often easily obviated. Having first to obtain the consent of the relieving officer is a serious obstacle, as he is usually resident in a distant parish *, and is visible only at intervals. When his written order is vouchsafed, after much scrupulosity, the medical officer is yet distant some miles. The relieving officer should receive positive directions to relax in his scrutiny very considerably. Some medical officers entertain the erroneous idea that they are not bound to attend any paupers but those receiving other aid; and, in fact, in some unions relief solely medical is seldom administered.

One very prominent hindrance to the *free* circulation of aid to the sick (as I would have it—not the *indiscriminate*) is the magnitude of the medical divisions. These, in the midland counties, are commonly too large, as you will observe in Table No. 2, although sometimes unavoidably. It is true that the

* 890 (the number of sick attended) multiplied by 6 gives 5340, about the whole number of destitute sick.

* *In practice*, the overseers of parishes seldom act; they leave the decision to the paid agent.

surgeon frequently resides near the centre, but as frequently his position is not so convenient, when a great and injurious interval is placed between himself and his patients.

Sir Astley Cooper, in 1838, before the Committee of the House of Commons, most judiciously gave it as his opinion that the medical districts should not exceed five miles in diameter; but, on looking over the Table No. 2, you will perceive that the districts are in length—

Five miles and under, only ..	9 times	With variable and often great breadth.
Seven miles, and above five ..	6 „	
Under ten miles, and above seven	8 „	
Ten miles and above	16 „	
	39	

In four districts, the range is eleven, twelve, and fourteen miles long respectively; and in three cases, at least, over well-peopled tracts.

When these divisions are too large, the effect is curious: it works well for the medical man on a stated salary. He is seldom called in, as might be anticipated. Promptness and frequency of attendance in this case cannot be expected; and there is little confidence in the medical adviser, a comparative stranger.

It has been repeatedly found in dispensaries and pauper practice, that a radius of three miles is the extreme limit from which any considerable number of patients will come; the applicants from beyond being few and scattered. So it is in Poor-law Unions, doubtless, as far as circumstances will permit.

The aid must be brought near to them. Wherever the poor are distant, every imaginable expedient is used to avoid sending five, seven, or ten miles for the professional man, unless he be very popular, or other relief be required.

It may, in fact, be cheaper for the pauper to employ on trust a medical man living close at hand. Somebody must lose a day's wages in journeying between the relieving and medical officers. It is frequently out of the sick person's power to send at all: whom can a poor person send long distances once and again?

I have known a journey of thirty-six miles to be taken for a bottle of medicine and a blister, or some such matter; across a tedious ferry, too. The messenger had to walk nine miles four times; the first eighteen miles for advice, and the second eighteen miles for the medicines. I mentioned this circumstance to Mr. Assistant-Commissioner Gulson, who, with many expressions of regret, put an immediate end to the possibility of its recurrence in that parish. I have read of similar instances; they cannot be unusual.

I shall say, Mr. Editor, little respecting the medical salaries, excepting that they are usually hurtfully inadequate—another grand obstacle to sufficient aid to the sick poor. A close examination of Table No. 1, will afford a valuable insight into the rate of payments, the gravity of the diseases, the labour performed or unperformed, and will substitute figures for those generalities of which every one takes his own measure.

The salaries should be carefully adapted to each district per case, according to the supposed expenditure in drugs, the average number of visits to each patient, and the medium distance of each patient from the medical attendant. These are particulars easily obtained.

It is the true interest of the ratepayers of unions to afford to the poor prompt, efficient, and kindly-administered medical relief; and this can only be secured by a proper salary—a salary, be it remembered, which is not wrung from the pauper, but is paid by the real property of the country: for the *bonâ fide* poor to be attended on *terms of equal advantage* with the rich, would be the veriest economy; but it is not so. Nothing would tend more to reconcile the labouring classes to the poor-law (a high-pressure system, with not a few harsh features), than a liberal and easily accessible attendance when sick.

I fear that Mr. Assistant-Commissioner Power is but too accurate in stating (2d Annual Report, p. 267), "that the low scale of remuneration has been found an excuse for defective attendance;" although not in this vicinity, as far as I am aware.

Various complaints have been made officially, by the medical officers, of the insufficiency of their stipends, slow as they naturally are to give vent to their feelings (vide 2d Report). The dissatisfaction in these counties, I declare emphatically, is great, and all but universal.

It must be confessed that the poor-law executive have been economising on the fears and imaginary necessities of the the profession—a procedure which, in the end, will prove a financial mistake.

I perceive that in the counties of Wilts, Sussex, and Hants, a more liberal remuneration has been granted; and that instead of the rate per head being always under 3d., as with us, it is (or has been) 4½d., 5½d., and frequently reaches 7d. per head of the population. Dr. Kay, in 1838, proposed 6d. per head before a Committee of the House of Commons.

I shall conclude these rapidly penned but well considered remarks, by stating it as my opinion that medical relief is not afforded, in rural districts, in proportion to the rightful demand; that its promptness and efficiency are much impeded by the size of the visiting ranges; and that the medical officer is discouraged by inadequate remuneration.

I know that the poor are suffering, although the various Boards of Guardians hear nothing. This arises partly from the remoteness of the labouring classes from the place of appeal, partly from their ignorance and inertness.

Remunerating clubs must be established, at a rate raised by honorary subscriptions, one-half higher than those of the Commissioners: the districts and salaries must be adjusted, and a more free distribution of medical relief (apart from any other succour) must be devised, in conformity with the opinions of Mr. Assistant-Commissioner Gulson, expressed before the Committee of the House before-mentioned, and elsewhere. These measures should be carefully digested and carried into effect by a paid medical inspector (for 12 to 24 Unions), and the respective Guardian Boards under the control of the Commissioners in London. The inspector brings professional information, the guardians local knowledge, the commissioners ensure uniformity and steady adherence to principle.

JOHN J. BIGSBY, M.D.

Newark-upon-Trent,
May 27, 1389.

EXTERNAL USE OF COLCHICUM.

To the Editor of the Medical Gazette.

SIR,

A FEW weeks ago you did me the honour of inserting in your journal a letter of mine, in which I recommended the external use of colchicum in rheumatic and gouty affections. Since that time I have had many opportunities for further trial of the remedy, and I now forward you the results.

Tincture of root of colchicum used as a liniment alleviates rheumatic pains, and pains in those of a gouty constitution, in nine cases out of ten. The exceptions are very chronic cases in old people. When relief is experienced, it is perceived in from two to thirty minutes after applying the remedy. Some patients remark that a sensation of warmth, or of tingling or formication follows the application. Occasionally, small pimples have appeared. Some appear to have been not merely relieved, but cured by it. The patient, in particular, who had had severe rheumatic headache for a length of time, and which had resisted the usual remedies, was well after using the tincture for a few days.

Venereal pains.—The proportion of cases of this class relieved by it is about three in five.

Anomalous pains in various parts of the body, as of the side in young females, of the feet, &c., are generally relieved by it.

Distinctly nervous pains and headache have been sometimes relieved, sometimes not; but when relief followed, it was no more, perhaps, than would have resulted from an equal quantity of proof spirit.

Pains, the sequelæ of injuries, are aggravated so soon as the tincture is applied, but eventually relieved.

Pains connected with inflammatory action were, I think, absolutely aggravated by it.

In three cases, the specific general effects of the internal use of the tincture were observed to follow its application to the skin. In one, the tincture had been freely rubbed on the shoulder; in another, on the loins; in a third, on the abdomen. In the last case I am quite convinced the symptoms (tenesmus, mucous stools, depressed pulse, &c.) were caused by the colchicum.

Indeed, in such a case these might have been predicted, from the experience we already have of endermic medication. The ancients made very common use of purgative epithems to the abdomen and epigastrium. Aëtius gives various formulæ (Tetr. i., Sermo iii. cap. 135.) The bases of these are honey,

lead, wax, and gall; and the more active ingredients, colocynth, white hellebore, scammony, elaterium, rue, sagapenum, &c. Applied to the umbilicus and abdominal surface, they purged, excited the menses, or destroyed the life of the fœtus; and, applied to the epigastrium, induced vomiting. Although these remarks are somewhat foreign to the subject matter of my letter, they may be of use in inducing practitioners to rely more generally upon endermic medication than they do. With regard to the tincture of colchicum-root, I am afraid the expense of the remedy will be an obstacle to its use. The acetous preparation will be, perhaps, cheaper, and as efficacious, and I would recommend a trial of it.—I am, sir,

Your obedient servant,

THOMAS LAYCOCK.

County Hospital, York,
May 23d, 1839.

FITS AND PARALYSIS.

To the Editor of the Medical Gazette.

SIR,

As the following case has some points of interest connected with it, I have forwarded it to your journal.

I remain, sir,
Your obedient servant,
C. J. B. ALDIS, M.D.

13, Old Burlington Street,
June 3, 1839.

Joseph Hammond, æt. 8, fair complexion, was placed under my care at the London Dispensary, April 8, 1839, for fits, which were stated to be epileptic; but as I could not clearly ascertain that he had ever bitten his tongue, I have called them convulsive fits, although, with the exception of this symptom, they were attended by all the other symptoms common to epilepsy. In addition to the fits there was paralysis of the right side; he had lost the use of the right hand, and walked with difficulty when supported by his mother. There was also a fatuous appearance about the boy, who did not seem to understand any thing which was said to him. The fits had endured five years, and varied in number from seven to twelve, or more, in twenty-four hours. Has been a patient at the Dispensary during three years. His mother is in the habit of tying him in a chair when she leaves home, in case a fit should occur while she is absent. The convulsions took place every twenty minutes on their first approach. Pulse natural; skin cool; tongue whitish; bowels open; urine free. Understanding, on inquiry, that he had been occasionally troubled with "thread worms," I ordered a powder of calomel with jalap alt. nocte.

Enema Oleosum alterno mane.—Cold sponging to the head.

April 11th.—Experienced a fit while waiting at the dispensary, and was carried to me in a drowsy condition, recovering as from an attack of epilepsy. No worms passed.

Inseratur setaceum nuchæ. Perstet.

15th.—Has about six fits in twenty-four hours.

Rep. Calom. c. Pulv. Jalap. o. n.

18th.—"Very bad." Fits no better.

℞ Mist. Camp. ʒss. Sp. Ammon. Arom. ɱx. ter die.

℞ Pil. Coloc. c. gr. v. omni nocte.

I did not see him for some days, but his mother reported to me that occasionally the fits were as bad as ever, and that the seton did not discharge freely.

May 2d.—I visited him in consequence of his mother reporting that he was very ill. He had a slight attack of fever, with sore throat, which was prevalent among the patients at that period. Tongue foul; bowels costive.

℞ Mist. Salin. Cathart. ʒi. ter die.

℞ Hydrarg. Chlorid. gr. ii. hâc et crastinâ nocte.

6th.—Rep. Hydrag. Chlorid. gr. iij. hâc et crast. nocte. P.

He soon recovered from this attack, and on the 13th the fits were less in number.

20th.—Six fits. P.

27th.—Only three fits.

℞ Hydrag. Chlorid. gr. ij. hâc et crast. nocte. P.

June 3d.—Only one fit since the 27th, which came on last night. Can lift his right arm over the head with perfect ease, and is able to grasp my fingers firmly with the right hand; walks much better, and is quicker in his intellect. Bowels costive; great discharge from the seton.

℞ Pil. Chlorid. c. gr. v. alt. nocte. P.

Remarks.—It is surprising, as the preceding case shews, for how long a period and how many convulsive attacks the constitution is enabled to sustain. The prognosis seemed most unfavourable when he was first brought to me, from the circumstance of the fits having existed so long, from their being attended with paralysis, and from the fatuous condition of the patient, which gave me little hopes of such great amendment. In cases of epilepsy accompanied by paralysis, there is frequently extensive organic disease of the brain, and medicine affords generally but slight relief. With regard to setons, I have never seen any material benefit follow their use, except in the preceding case.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

Essays on the most Important Diseases of Women. By Robert Ferguson, M.D., &c. &c. Part I. *Puerperal Fever.* London, 1839. 12mo. pp. 299 and 36.

Dr. Ferguson, in his 1st chapter, divides puerperal fever into four forms: the first being the peritoneal form; the second, fever, with gastro-enteric irritation; the third, the nervous form; and the fourth, the complicated. The first form, however, is subdivided into two kinds; in one of which the pain is transient, and relieved by opiates, in the other the pain is permanent, and requires bleeding; so that, in fact, there are five forms of this fatal disease.

In the second chapter he gives the morbid anatomy of puerperal fever.

In the third, he discusses the nature of the disease, and the three following propositions embody his views:—

"1. The phenomena of puerperal fever originate in a vitiation of the fluids.

"2. The causes which are capable of vitiating the fluids are particularly rife after child-birth.

"3. The various forms of puerperal fever depend on this one cause, and may readily be deduced from it."—P. 53.

This chapter is particularly interesting. After shewing that the symptoms produced by artificially vitiating the blood in animals, strongly resemble those of puerperal fever, the author remarks, "that after child-birth, the womb is like an amputated stump, and that it has a reparative process to perform, which, being disturbed, permits the large gaping vessels to spread in the blood noxious secretions which they have imbibed."—P. 80.

The fourth chapter gives the opinions of authors on the nature of puerperal fever.

In the fifth chapter, the treatment is discussed. The following are the chief points in the treatment of the peritoneal form, and are illustrated by the detail of twenty-two cases:—

"In every case of peritoneal pain, the experience of the hospital has proved that a large linseed-meal poultice, applied over the whole abdomen, affords great comfort, and not unfrequently decided and prompt relief. It should be made sufficiently thick to retain warmth for four hours, which it readily does, and sufficiently large to extend from sternum to pubes, and from side to side. It is not unfrequently tolerated, when the pressure of the bed-clothes is intolerable. I do not pretend to account for its action; but I know the fact, that it soothes pain, and generally induces copious perspiration, and a tendency to sleep. Where there are no obvious inducements for general bleeding, and nothing, on the other hand, to mark the case as eminently typhoid, 10 grs. of Dover's powder may be given as soon as the poultice is applied.

"A second visit should be made in four hours, when, if the symptoms have been alleviated, 10 grs. more of the Dover's powder, and a fresh poultice, should be prescribed. If within four hours after the second medication, the practitioner is not satisfied that the malady is yielding, he must at once resort to depletion.

"The efficacy of this plan of treatment depends on its early application. As soon as the pain has commenced, or even during the rigor which mostly precedes it, the nurse should have orders to apply the poultice, and to send for the medical attendant. Even if the plan is not successful (it having been tried, be it remembered, in cases in which the necessity of venesection is not *obviously* apparent,) the loss of six hours is not injurious; nor am I inclined, after again and again having made the experiment, to participate in the fears of those who

proscribe the early use of opiates. As long as inflammation is made up of vascular and nervous action, of the afflux of blood to a spot, and of pain, so long I do not think it irrational to act on both the elements of the malady at the same time, or in periods shortly consecutive of each other. The chief danger of the use of opium, in cases of local vascularity, consists in the diminution it causes of the secretions. But with regard to the malady in question, this may be obviated by using the Dover's powder, and combining it with an aperient, especially the mercurial preparations. In this way, while pain is soothed, the skin, liver, and bowels, are acted on.

"Where the malady is not immediately ameliorated or arrested, it runs into one or other of the various forms I have described, and requires a mixed treatment. On inspecting my tables, it will be seen that forty cases, or one-fifth, were treated without any bleeding or leeching, or without any bleeding or leeching, or without any attempt to induce the constitutional effects of mercury, and of these two only died.

"I might cite authorities in favour of the use of opiates in puerperal fevers, but I shall content myself with instancing Chaussier, and quoting the fifth case of Gordon of Aberdeen, who, despairing of cure, gave to a patient, writhing with the agony of a swollen and painful abdomen, a full opiate as a palliative; it proved, to his astonishment, a cure. This example is the more valuable, as it comes from one whose sole axiom, in treating this malady, was a full bleeding, followed by a full purge."—P. 114.....

"I have attempted to arrange the above cases so that the student may see—1st, That the chief intensity of the malady is expended on the peritoneum. 2d, That there is every variety in grade of that intensity. 3d, That some of these are best relieved by acting on the nervous element of inflammation, while others require in addition depletion. If we take abdominal pain as the point on which the attention is fixed, we shall find that it is accompanied by two very different states of constitution; one in which little or no depletion is borne—another, in which relief is obtained only by very large evacuations of blood; between these two points there is every imaginable grade realised in practice, and in no malady are a cautious boldness, and a sagacious adaptation of remedy to constitutional power, more imperatively demanded than in the treatment of puerperal fever. No rule can be laid down which will suit every case.

"The absolute variation in the intensity of the peritoneal attack may be inferred as really existing, from what is seen in the action of the malady on parts exposed to the eye. Thus, in what I have termed local deposit, occurring in the limbs, we can *see* every grade of attack on organic texture. In one case there is mere flushing, in another pricking pain, in a third congestion with black suffusion, in a fourth various effusions, and in a fifth gangrene. What is here produced externally and visibly corresponds, I believe, to what takes place internally and secretly in the abdominal cavity, or in the parenchyma of the liver, the spleen, or the lung. It is here that Dr. Gooch's profound remark finds its application, namely, that the power of the constitution is often only made known by the effect of the remedy. The practitioner will be egregiously deceived if he relies on any single symptom as an infallible guide for depletion, for example:—The majority of cases of puerperal fever do not fall into two classes, so well characterised, that the one shall require copious bleeding, the other none; but in the same hospital, and in the same epidemic, three or four patients, consecutively, will be cured by copious bloodletting, yet the fifth and sixth, apparently as capable of bearing it, will faint after the abstraction of a few ounces. It was the insufficiency of symptoms as the sole guide, which made Gordon and Campbell assert we ought not to depend on them, but bleed in every case of puerperal fever; since, even in those apparently typhoid, the remedy will remove the oppression of the system, and unveil the true nature of the malady. This rash and exclusive practice, however, is now regarded as untenable in experience. John Hunter also acknowledged the insufficiency of symptoms as a guide to depletion in all cases, and recommended what he termed a 'tentative bleeding.' A small quantity of blood was taken, its effects on the constitution noticed, and the indications afforded by its coagulation,

aspect, &c. noted; and from these collective signs did this great man determine as to further depletory measures.

"The following is the sum of my own experience of bleeding as a remedy in puerperal fever:—Of all the means we possess of arresting this malady, I believe bleeding general or topical to be by far the most extensively applicable. The cases in which it is not so are exceptions to the rule. Mercury, turpentine, emetics, opiates, sudorifics, &c., have a more limited range of utility than abstraction of blood. But while I admit this, I am equally certain that *large* bleeding has not been borne in this malady, generally speaking, during the last twelve years.

"Those who have borne it best and required it most were—1. Those who were originally vigorous, and in whom no chronic ailment of the intestinal canal or lungs previously existed. 2. Those in whom the fever was accompanied by a general turgor of the frame, their aspect being that of a person who has been flushed by running, and forming a marked contrast with the pinched, shrivelled, and stricken looks of those labouring under the typhoid form of the malady. 3. Those in whom the disease seemed to be limited to one organ.

"It may be asserted, with more hesitation, however, that they who are confined out of an hospital exhibit greater reactive powers than those who are confined in one.

"The pulse, as Gordon has remarked, is very deceptive; and the cases I have given shew that painfulness is no sufficient criterion of the necessity of depletion.

"Besides these general indications, epidemic puerperal fever has, invariably, the character common to the ordinary fevers raging with it: if the latter require depletions, the presumption is, that the former will also."—P. 150.

Passing over the treatment of the gastro-enteric variety, we come to that of the ataxic forms, which appears to consist chiefly of opium, quinine, stimulants, and aperients. The following observations on the nervous variety of puerperal fever add elegance to truth:—

"Of all the forms of this disease, this is one of which the least satisfactory account can be given. It has long been known to physiologists, that disturbance of the functions will kill as rapidly as alteration of structure; and that the wheels of the living machine will as surely cease to move, if their motions be not in harmonious adaptation, as when the matter of which they are framed gives way. But the mode of death, from the first point of hindrance up to the last, is a great mystery, to be fathomed by him only who shall reveal how that most marvellous portion of our frames, the nervous system, connects man with two worlds, the material and the invisible.—P. 175.

"It is the characteristic of this age to attempt to raise the veil which hides this knowledge from us; but as yet it has merely ascertained a few, a very few of the *organs* even, in which some of the thousand powers inherent in the nerves are situated, and that too with hesitation and doubt. When the whole of the elements of nervous function shall have been discovered—when the organs in which they reside shall have been detected—their combination and mutual action forming the complex phenomena of life will still remain to be interpreted. No wonder, then, that our knowledge of nervous malady should be slight and superficial."—P. 175.

Dr. Ferguson speaks of the treatment of the fourth or complicated form in a tone of despair; for he observes, "it is only in its slighter grades that this form is curable; where it is the leading characteristic of an epidemic, the vast majority will die."—P. 199.

Our author discusses in turn, the principal remedies which have been tried in this variety of the disease — namely, emetics, purgatives, mercurials, and Dr. Stevens's mixture. His observations are very instructive, but we cannot afford to quote any of them. A number of cases are then given, illustrating the morbid anatomy of this fatal form of puerperal fever. The appendix contains an abstract of Mr. Gulliver's paper on Suppuration; a letter from Dr. Copland, on the Treatment of Puerperal Fever; a letter from Dr. Watson, on the use of Opium in certain Inflammatory Diseases; and several tables which are most useful contributions towards the statistical history of puerperal fever. In the period from March 1827 to April 1838, there were 205 cases of the disease, and 68 deaths from it, in the Westminster Lying-in Hospital.

The volume is concluded by a lecture

on the Method of Induction, and its results in Medical Science, delivered at King's College in 1836.

We will terminate this long review with two remarks.

It is but too clear, as we lately remarked in our leading article, that lying-in hospitals are entirely adverse to the object for which they were chiefly instituted, that of saving human life. It is equally manifest, that they might be improved if a sound practitioner resided in the house, capable of acting in emergencies with that confidence which knowledge alone inspires; for the physicians commonly live at some distance, and irrecoverable time is lost before they arrive. "I have not had many opportunities of exhibiting emetics," says our author, "chiefly because I have not seen the patient till after the favourable moment, which is at the commencement of the malady, has passed."—(P. 205.)

Dr. Ferguson's work shows great talent as well as industry, and cannot be read without profit either by practitioners or students.

MEDICAL GAZETTE.

Saturday, June 8, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

PRACTITIONERS AT HOME AND ABROAD.

We believe there is no profession or trade in which there is so vast a distance in regard to worldly prosperity and social estimation, between the highest and the lowest of its members, as in medicine. We took occasion to notice, last week, a fact which may mark the lowest descent that the profession has yet made; one of its members actually advertizing for a situation in which he "would not object to perform the duties of a valet;" and yet at the opposite end of the scale there are as many as ever, who not only keep their own valets, but live in a style of costly splendour, and in the enjoyment of every luxury that wealth can purchase. An observing foreigner (one of the many who are now arriving every day) would be much puzzled to account for such an apparent anomaly, and still more to arrive at any definite or just conclusion on the state of the profession in this country as compared with its condition in his own. Yet this is the kind of evidence on which travellers so generally form their hasty conclusions, and on which, in regard to our profession, foreigners acquire the most ludicrous ideas either of its magnificence or of its degradation. They look only at the extremities of the scale; and have entirely neglected the intermediate, but far more numerous and important class, by which the real average of the mental and social condition must be estimated.

For one nation to challenge another to produce a professional man of equal excellence with any one of its own, and from the individual merits of each to decide upon the condition of the mass (as is so generally done) is most absurd: a man might as well describe the general stature of Irishmen by measuring the skeleton of O'Byrne. An estimate of the talents of the leading men in any profession can afford no evidence of the present general condition of its members, though it may give some idea of their future improvement or deterioration; it requires some time for "inferior minds, who borrow their behaviour from the great," to "grow great by their example"; and the general improvement of intellect by the influence of a few choice minds, though it may be as sure, is not more rapid than the physical improvement of a race by the introduction of a few vigorous individuals of a better stock. While she had Harvey and Hunter, for example, England might safely have thrown down the gauntlet to the world to produce such intellect employed in medicine; yet the general intellectual standard of the profession was far lower

at either of these periods than it is now.

It is difficult to arrive at any fair estimate of the condition of the mass of our profession in another country. In Paris, for example, one rarely by any chance sees or hears of a practitioner of the crowd; the names of their hospital physicians and surgeons, and the lecturers of the *école* and college, become familiar before one has learnt the name of a single private practitioner; yet there are, of course, vast numbers whose professional reputation scarcely extends beyond their own circle, in whose care are the lives of the majority of the population, and who therefore constitute that which to the present race is by far the most important class. Their condition is a matter, therefore, of the gravest interest and importance to the public; and, as we have often urged, all schemes of education (due regard being had to prevent the scientific study of medicine from retrograding) should have for their main object the insurance of the highest possible degree of excellence for the greatest number, or what we would call the mass of the profession. By attaining this, the greatest amount of life will be saved, and the greatest amount of pain alleviated, and so medicine will have most efficiently supplied its office, and given the best boon for its remuneration.

In regard to the pecuniary and social condition of the practitioners in this and other countries, however different they may be absolutely, they are about equal when viewed relatively to the circumstances in which each is placed. The Parisian physician may be content with five francs for a service for which the English physician, though perhaps of inferior eminence and talent, would receive his guinea, and all other classes of practitioners may be proportionately remunerated; but the seemingly great diparity is soon compensated by the difference of expense at which the two are obliged to live. If fees are low, so are rents, and taxes, and provisions; and if a man is paid well, he is expected to make a good appearance. By this compensating arrangement, practitioners of both countries probably live up to their income, and occupy about the same general station in society. This, indeed, is but natural; the public are no judges of professional merit, and in the present day, with seme brilliant exceptions, give station to practitioners rather in accordance with their birth, parentage, and education, than with any reference to their power of curing disorders. Indeed, it is worthy of observation that medical practitioners have rather fallen in the public respect, while their real knowledge has been increasing. The practitioner, however able, of the present day, for example, is far less estimated than the practitioner of centuries ago; and the reason is clear; a large portion of the public, who were then at an immeasurable distance from him, are now on a level with him in all branches of general information, and being unable to appreciate the value or the difficulty of attaining a sound professional knowledge, regard themselves as in all respects his equal. It is unnecessary to adduce stronger evidence in support of any system which would insure a better (we do not mean a more widely and superficially extended) education for students than this—that the profession is now considerably lower in its social relations than it formerly was, although it has been rapidly rising in its general standard of scientific knowledge.

We know nothing that is more likely to afford a good criterion of the intellectual condition of the mass of general practitioners than the contents of the periodical records of practical medicine,

as distinguished from those more generally quoted, which are devoted to the sciences collateral to medicine. The latter, however well they may shew the progress of the dominant pursuit, and the general tendency of the minds of the scientifically-working part of the profession, have no relation to the majority, who neither write nor read them. Müller's Archiv for example, clearly enough shews the widely extended taste for physiology in Germany, but affords no idea of the practical knowledge of those under whose care the sick fall. If we judged of them by the writings of the contributors to this excellent and scientific work, we should imagine the practitioners of Germany to be, by comparison with those of France or England, scarcely fit to undertake the management of the simplest disease, so complete is the absence of any knowledge of the useful applications of scientific medicine, and so vague and incorrect the pathological illustrations of structural anatomy and physiology.

For a fair comparison it is necessary to examine the records of practical medicine—those, for example, which are extracted from all sources, and placed in Schmidt's Jahrbucher, or those in Hufeland and Osann's Journal—those of the Gazette Médicale, the Gazette des Hôpitaux (*ci-devant* Lancette Française) or the Archives générales de Médecine—those of the Annali Universali di Medicina—and those of our own weekly and monthly publications. Taking these as a guide, it will be readily granted that the general tone of the English communications presents a more earnest attention to utility, and that the actual amount of practical knowledge which they evince is several degrees higher than that which seems to be possessed by the continental contributors.

The general tone of the English writings of this class appears to be the offering of useful, though sometimes illogical, deductions from actual practice; the manner in which the practitioner may best acquit himself, and obtain the most reputation in a given class of cases, is told, and a mutual benefit is thus constantly afforded; the applicable knowledge of each of the mass is daily increased, and the public are proportionally and immediately benefited.

In the corresponding writings of Frenchmen, one is at once struck with the idea that the papers are composed more for the sake of insuring the author a reputation among his *confrères*, than for the benefit of the public. The treatment of the disease is often omitted, very generally slurred over, and never so much or so carefully considered as its pathology. To judge them by writings of this class, the French would appear to be most inefficient and unsuccessful practitioners: operations, deaths, and post-mortem examinations, occupy five pages out of six, while the treatment towards a cure or an alleviation of suffering, fills, perhaps, only a few lines. But the difficulties of studying pathology (the present dominant French science) in private practice, prevent the great majority of practitioners from writing at all; they are, therefore, on the average, rather below the grade which would be estimated from the periodicals, for they receive their practical knowledge from those who have themselves too much neglected it in the pursuit of pathology; and the study of practice being unfashionable and ill rewarded, there is little inducement to exert themselves for their own improvement or for the present good of the public.

In Germany, the preponderating influence of physiology, and the attraction which it affords to all those of leading intellect, has led to a still lower average of practical knowledge among those in whose skill the public is especially interested. We see every day, communi-

cations to their periodicals of practical medicine, which would scarcely do credit to our nurses: the most crude ideas of the influence of remedies—the exaltation of some of the most inefficient to the rank of the most useful—the praise of many which experience has elsewhere long proved to be inert—and confused and disorderly formulæ—afford a fair idea of what a medical periodical would have been in England two centuries ago. We speak only of the writings of the mass of actual practitioners, more of whom write in Germany than in any other country. Their physiologists now form a school which is, beyond comparison, the most intellectual and successful that ever existed; but the present public pay for this eminence, of which the unborn of far distant years will reap the sure benefits.

But what is the fair inference that may be drawn from these several cases, as to the best mode in which medicine may be taught for the benefit of the public? There can be no doubt that the philosophical study of it will most certainly ensure its improvement, and soonest obtain its perfection. Common practical experience is insufficient for this: nearly all that has been done profitably in the last 2000 years is the work of the scientific minority: yet it is hard and unfair that the present generation should suffer, while their medical men are in pursuit of advantages for their successors. A union of the two systems seems far better than either singly. All should be taught to practise, and to practise well; and scientific progress may be left to those whose talents, independent means, or taste, lead them to it. Science has never suffered by being left to a few; its pleasures are wages sufficient to ensure, if not to repay, an ample supply of labourers; but the medical sciences (as distinguished from the knowledge of its simple practice) have not yet a utility proportionate to the difficulty of attaining them, and are mischievous when generally pursued with the sacrifice of knowledge more immediately applicable to practice.

DR. THOMAS DAVIES.

We regret much to announce the death of this gentleman, which took place at his residence in Broad Street, on Saturday, the 1st instant.

Dr. Davies was assistant-physician to the London Hospital, and one of the physicians to an Institution in the City for Diseases of the Lungs. He had paid much attention to the morbid states of the thoracic viscera, particularly with reference to the physical signs by which they are indicated. Some valuable lectures by the deceased, on these subjects, appeared in our 15th volume, which were afterwards given to the public in a separate form.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

May 28, 1839.

The Presidrnt in the Chair.

On a peculiar Form of Congenital Tumor of the Neck. By Cæsar Hawkins, Esq. Surgeon to St. George's Hospital.

The author's intention in the present communication is not to refer to the tumors met with in such variety in new-born infants, which are liable to immediate or future increase, and are composed, for the most part, of a single cyst, with various contents; he, on the contrary, restricts himself to the consideration of a peculiar form of congenital tumor, which is composed of many cysts joined together, in which the proportion of organized matter is so considerable as to give a more solid character to the tumor, and make it deserve the character of *cystic tumor* as much as the apparently analogous cases of cystic sarcoma occasionally found in the breast, testis, or ovary of adults.

The author having met with seven such tumors in the necks of young children, was led to hope that he may be enabled to throw some light upon their diagnosis, which may be acceptable to the society. He accordingly relates the details of several of them, one of which was treated with complete success by the method pointed out by the author; and some others were in a state of progressive amendment when lost sight of by him. The treatment is described by the author

as follows: — 1st. The cysts may be emptied from time to time by a grooved needle, so as to leave no scar whatever, or by a lancet, when situated in the mouth. 2dly. Pressure may be employed, especially after the evacuation of the fluid in some situations, as in front of the ear, although, of course, this means is generally inapplicable, on account of its obvious interference with respiration, mastication, and deglutition. 3dly. Stimulant applications may be constantly employed of such a strength as to excite moderate inflammation, but stopping short of suppuration to avoid deformity. The applications employed by the author have been, the ointment of hydriodate of potassa, rubbed in by the hand; a solution of a drachm of iodine and 2 scruples of hydriodate of potassa in an ounce of water, painted over the tumor. One of the patients, a child, 11 weeks old, sent to the author by Dr. Willis, having died, an opportunity was afforded for a minute examination of the tumor, of which the author relates the circumstances in detail.

A paper was next read by John Webster, M.D., consulting physician to the St. George's and St. James's Dispensary, detailing the particulars of some cases of measles occurring more than once in the same individuals.

A remarkable case was then narrated of dry gangrene occurring in a child of three years and seven months old, by Samuel Solly, F.R.S., lecturer on anatomy at St. Thomas's Hospital.

William Chandler, the subject of the disease in question, is the son of a bargeman, and it is probable, from the high wages earned by his father, is better nourished than the greater number of the children of the poor. He was under the immediate superintendence of Mr. Bayley, of Odiham, who was unable to discover any thing in his diet to explain the occurrence of the remarkable form of disease under which he laboured.

The author visited the patient in company with Mr. Bury, of Farnham, on the 29th of January last, at which time three of his limbs—the left leg and both arms—were in an advanced state of destruction by dry gangrene. Three days before his first visit the right forearm had been amputated by nature at the elbow-joint, but the slough had extended above the joint, where a second attempt at amputation was in progress. The foot of the left leg was completely removed just above the ankle-joint, between the epiphyses and the shafts of the tibia and fibula, leaving the extremities of the bones exposed. On the right foot the phalanges of the second and third toes had been removed.

The author learned from the mother of the child that the disease had begun in the month of August last, both his feet becoming of a purple colour. Sloughing had commenced in September on the right leg. These sloughs separated, and the wound healed in a month; that on the left leg never healed, but gradually opened, and a line of demarcation being set up, amputation gradually took place, and the limb was entirely removed on the 30th December. It is impossible to convey, in the brief space of an abstract, an adequate idea of the appearance of the several limbs, whose condition, while the disease was in progress, and after nature had wrought the cure, is shewn in two spirited sketches which accompanied the paper.

The stump of the left arm promised to be rather conical, but those of the leg and arm will be fleshy and round, equally so with many stumps resulting from artificial amputation.

The last meeting for the present session will be held on Tuesday next, the 11th instant.

WOUND OF KNEE-JOINT.

To the Editor of the Medical Gazette.

Sir,

The following case is interesting in many points of view; but particularly, first, as to the absence of constitutional disturbance in so severe an injury to the knee-joint; and secondly, as shewing the injudicious haste with which amputation is often resorted to in accidents of this nature. You will much oblige me by its insertion in the next number of the Medical Gazette.—I am, sir,

Your most obedient servant,

J. B. Samuel,
House-Surgeon.

Newark Dispensary,
June 1, 1839.

Case.—Thomas Tebb, maltster, æt. 28, was dmitted a patient of the Newark Dispensary on the 9th of July, 1838, in consequence of having sustained an injury of the knee, from falling on the edge of a scythe, being at the time under the influence of liquor. On examination, there was found to be a semicircular wound, six inches in extent, passing round under the knee-cap, dividing the ligamentum patellæ, and thus rendering the joint completely exposed. The synovia had escaped, and the wound was filled with dirt. A deep wound had also been made in the muscular substance of the thigh by the point of

the scythe. The parts having been cleaned, the edges were brought together, and retained by four sutures. An opiate was ordered, and spirit lotion to the part.

July 10th, 5 A.M.—Had passed a tolerable night. No constitutional disturbance.

10 P.M.—No unfavourable symptoms had yet appeared; pulse 82. Bowels not having been opened, ordered—

℞ Pil. Hydrarg. gr. iij. Sap. c. Opio, gr. v. F. Pil. ij. hor. som. sum.

℞ Pulv. Jalapæ, ℈j. Zingib. gr. v. F. Pulv. cras. mane sum.

11th.—Had passed a good night. Skin cool; tongue moist; pulse 72; bowels not yet acted.

10 P.M.—Bowels freely opened; pulse 76.

Rep. Pilulæ.

12th.—Going on well. Pulse 78; bowels confined.

Rep. Pulv. Aper.

13th.—Passed tolerable night; bowels open. Slight discharge from wound, but complained of no pain. Pulse 76.

Rep. Pilulæ.

14th and 15th.—Going on well.

16th.—Some of the dressings, and one of the sutures, were this day removed: union had taken place to a considerable extent; very slight healthy puriform discharge; synovia flowed in large quantity, and had become less albuminous than natural.

Lotion and opiate to be discontinued.

17th.—Removed all the dressings and sutures; union had taken place throughout almost the whole extent. On inner side of knee a small orifice, through which the synovia flowed copiously. In consequence of restlessness on previous night, ordered—

Acet. Morphiæ, gr. ss. hor. som. sum.

18th.—Going on well; allowed mutton chop and four ounces of porter.

Rep. Pil.

19th, 20th, 21st.—Going on well.

22d.—Wound looking exceedingly well; healthy granulations springing up.

Discontinue opiate.

24th.—Doing well. Ordered—

Quinine mixture, and pint of porter daily.

26th.—Discharge of synovia considerably lessened.

August.—Slow and gradual improvement. Allowed two pints of porter daily.

September.—The opening on inner side of knee has completely closed, though the surface remains in a state of ulceration. The patient gained strength and flesh rapidly this month. All medicines discontinued.

October.—A very slight sore, requiring to be dressed once a week, remains. Discharged Nov. 8th, perfectly cured.

The joint, of course, remains anchylosed. From division of the legamentum patellæ, the patella is drawn up by the rectus muscle above its natural situation; and from the same cause he is unable to bring the heel nearer than an inch and a half from the ground. With this exception he is as well as before the accident, and is now pursuing his usual employment.

OPERATION FOR WRY-NECK.

To the Editor of the Medical Gazette.

SIR,

THE axiom, "There is nothing new under the sun," scarcely needs confirmation, and yet I cannot resist the temptation to furnish you with a fresh proof of its legitimacy. Take one of the few passages worth recording in "Ward's Diary," the whole of which was written between the years 1648 and 1679. Is it not truly lamentable to be thus forced to trace back the brilliant operations of Dr. Stromeyer to a mountebank of the 17th century? But are not most brilliant discoveries subject to similar penalties? Voici le fait! In offering which to your attention, I beg to subscribe myself, sir,

Your most obedient servant,

ANTIQUARIUS.

"The mountebank that cutt wry necks, cutt three tendons in one child's neck, and hee did it thus: first by making a small orifice with his launcet, and lifting up the tendon for fear of the jugular vein—then by putting in his incision knife and cutting them upwards; they give a great snapp when cut. The orifice of his wounds are small, and scarce any blood follows. Some are wry neckt from the womb; they only lay a melilot plaister to heal the wound; the plaister must bee a fresh one every day. As for the symptoms of this cutting, they are only these: that about a day or two after, the child will be sickish, some humour falling on the stomach of itt, as the mountebank says. When hee hath cutt itt, hee bends the child's neck the other way, and puts on a capp and a fillet tied to the capp, and so ties it under the armpitts, and so by constant bending the head that way, itt becomes straight and upe right."—*Ward's Diary*, pp. 273-4.

PRIZE QUESTIONS PROPOSED BY THE SOCIETE' DE PHARMACIE.

I. *Polygonum tinctorium.*—In April 1840, the society will give a prize of 1,500 francs to the candidate who shall send in the best answers to the following questions:—

1. To determine what are the substances which enter into the composition of the *Polygonum tinctorium.*

2. To determine the exact proportion of indigotine contained in this vegetable, and to ascertain in what state it is found there.

3. To point out a method of extracting the colouring matter, capable of being used with advantage, and of furnishing a product comparable to the best kinds of indigo found in commerce.

II. *Adulterations of Copaiba.*—The therapeutic importance of copaiba has long pointed out the necessity of affording druggists a method of recognizing its adulterations; but in spite of every attempt, no characters have yet been discovered peculiar to the balm of copaiba, and therefore capable of distinctly showing the presence of foreign substances fraudulently introduced into it. Magnesia, which has been shewn by the experiments of M. Mialhe to possess, in small doses, the property of solidifying the balm of copaiba, seemed at first a certain and convenient test; but it was soon ascertained that some samples of copaiba, of authentic origin and incontestible purity, did not possess this property, which assuredly belongs to others. On the other hand, an equally important observation has been made, that certain substances, particularly the turpentine of the maritime pine (*pin maritime*) might be added to copaiba, and even in considerable quantities, without destroying its property of being solidified by magnesia.

Such being the state of things, the Pharmaceutical Society hopes to do the art some service in drawing the attention of chemists and druggists to this subject. It has consequently thought it right to propose the following prize questions:—

1. To determine what kinds of copaiba are solidifiable by magnesia.

2. Does this property depend on the age or any other spontaneous alteration of the balm, or is it inherent in certain varieties, according to the botanical species which furnishes them?

3. How can the presence of the turpentine of the maritime pine, or of any other substance having the power of being solidified by magnesia, be recognized in the balm of copaiba?

A gold medal of the value of 300 francs will be given to the author of the best memoir on these questions.

III. *Pectine and Pectic Acid.*—The Society again proposes the prize offered in 1836 upon the following question:—

"It is required to point out the phenomena which accompany the transformation of pectine into pectic acid, and the differences which exist between these two substances?"

The reasons which induce the society to propose this question afresh are sufficiently set forth in the programme of 1836 (see the Journal de Pharmacie, tome xxii. page 718). The society will merely remark, that since that time the question has made general progress through the labours of M. Regnault, and his analysis of pectic acid (see the Journal de Pharmacie, tome xxiv). The candidates will find an important element towards the solution of the question in his essay. The society also thinks it right to recommend to their attention the miscroscopic observations of M. Cagniard-Latour on the same subject. In fact, these observations throw an entirely new light on the phenomena of vinous fermentation, which is connected, in the fermentation of acid sugars, with the disappearance of the pectine, and the formation of the pectic acid.

A gold medal worth 1000 francs will be given to the memoir which shall fulfil the conditions of the programme.

IV. *Immediate principles of Digitalis purpurea.*—Lastly, for the reasons given in preceding programmes, to which it refers candidates, the society again proposes the following question:—

"Does there exist in the purple foxglove one or more immediate principles to which the medical properties of the plant may be attributed?"

A gold medal worth 500 francs is devoted to the solution of this question.

The memoirs, which must be written in Latin or French, are to be addressed to *M. le Secrétaire général de la Société, rue de l'Arbalète*, 13; with a motto, and the name of the author sealed up, before the 1st of December 1839.—*Journal de Pharmacie*, and *Revue Médicale*, April 1839.

ANTI-NEURALGIC MIXTURE

Of Dr. Liegard, of Caen.

℞ Aquæ Lactucæ,
Aquæ Lauro-cerasi, aa. ʒij*.
Extr. Lactucæ†, gr. xv.

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* As the French *gros* contains 72 grains, it would be more exact to translate this quantity by gr. cxliv.

† In the original it is Extrait *de Thridace*; but as *thridace* is itself an extract of lettuce, this is probably an error.

Extr. Belladonnæ, gr. vj.
Extr. Hyoscyami, gr. viij.
Extr. Stramonii, gr. x.

POTION, BY THE SAME.

℞ Aquæ Lactucæ, ℥j.
Aquæ Lauro-cerasi, ℥ij.
Extr. Lactucæ, gr. xij.
Extr. Belladonnæ, gr. vj.
Extr. Stramonii, gr. viij.
Extr. Hyoscyami, gr. x.
Syr. Valerianæ, ℥j.

The potion is to be taken in the dose of a teaspoonful once, twice, or thrice a day; the dose of the mixture is from five to six drops in sugar and-water, when taken internally, and a teaspoonful when used externally. These two methods of administration are employed at the same time.—*Gazette des Hôpitaux*, April 16, 1839.

RIOTS AT PARIS ON THE 12TH MAY.

THE *Gazette Médicale* says, that the number of wounded and dead soldiers in the hospitals has been incorrectly given in the daily papers, and that the following is a correct list, as far as regards the *militaires municipaux, ligne, ou autres*; including, therefore, of course, national guards and gens-d'armes:—

At the Val-de-Grâce 10
Of whom two were brought in dead; the rest are not seriously wounded, with the exception of two, one of whom has a penetrating wound of the chest, and the other has had his arm amputated.

At the Hôtel-Dieu 21
Of whom six are dead; of the other sixteen, perhaps a third has been lost.

At St.-Louis 10
Of whom one is dead; among the other nine there is a case of amputation at the shoulder-joint.

41

There is no soldier in any other hospital; so that the number of wounded is only 41, of whom 9 are dead.

BOOKS RECEIVED FOR REVIEW.

The Physiology or Mechanism of Blushing; illustrative of the Influence of Mental Emotion on the Capillary Circulation: with a general View of the Sympathies and the Organic Relations of those Structures with which they seem to be connected. By Thomas H. Burgess, M.D. &c. London, 1839. 8vo.p p. 202.

An Inquiry into the Propagation of Contagious Poisons by the Atmo phere; as also into the Nature and Effects of vitiated Air, its Forms and Sources, and other Causes of Pestilence: with Directions for avoiding the action of Contagion, and Observations on some Means for promoting Public Health. By S. Scott Alison, M.D. Tranent. Edinburgh and London, 1839. 12mo. pp. 219.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 30, 1839.

John Nathaniel Barlow, Writtle, Essex.—Herbert Diaper, Portsmouth.—Thos. Pearce Beavan, Banbury.—Henry Hensley, Bath.—John Chadwick, Lancashire.—John Smith Gaunt, Alvechurch.—George Devereux Harrison, Welsh Pool, Montgomeryshire.—Peter John Thompson, Newcastle-on-Tyne.—Richard Hindle, Blackburn, Lancashire.—Wm. Edward Coyte Bishop, Norwich.—Peter Wm. Leather, Prescot.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *June* 4, 1839.

Abscess	1	Hooping Cough	2
Age and Debility	24	Inflammation	9
Apoplexy	3	Bowels & Stomach	3
Asthma	4	Brain	1
Childbirth	2	Lungs and Pleura	8
Consumption	38	Influenza	1
Convulsions	17	Insanity	3
Croup	2	Measles	12
Dentition	1	Mortification	2
Dropsy	6	Small-pox	3
Dropsy in the Brain	2	Unknown Causes	93
Fever	3		
Fever, Scarlet	13	Casualties	6
Heart, diseased	2		

Decrease of Burials, as compared with the preceding week 26

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

May.	THERMOMETER.		BAROMETER.	
Thursday . 30	from 46	to 71	30·02	to 29·97
Friday . . 31	51	67	29 94	29 91
June.				
Saturday . 1	48	71	29·90	29·88
Sunday . . 2	44	63	29·85	29·75
Monday . . 3	46	61	29·67	29·56
Tuesday . . 4	49	63	29·64	29·65
Wednesday 5	46	70	29·77	29·84

Prevailing wind, N.E.

Except the 3d, morning of the 4th, and afternoon of the 5th, generally clear; rain on the 3d; lightning and distant thunder in the west, accompanied with heavy rain, between four and five o'clock on the afternoon of the 5th.

Rain fallen, ·5875 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JUNE 15, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

In women.—In consequence of the peculiarity of structure in the urinary organs, females are not only less liable to calculous accretions, but even when formed they produce symptoms somewhat different from those in men. From the comparative shortness of the urethra in women, a calculus, whether it have passed from the kidney into the bladder, or have originally formed in this last, is much more easily evacuated before it attains to any great size. Neither is there that excessive pain either on voiding or attempting to void the urine, described as attending the same efforts in the male. When they suffer from vesical calculi, they experience a sense of itching about the genitals, and hence are often irresistibly compelled to scratch them. In such cases, too, they frequently feel the calculus, if it should happen to touch the neck of the bladder *. But not only is the calculus more readily voided, but the female urethra admits of such easy and great distension, that these means of extracting calculi will be mostly adopted, so as to prevent them attaining any great size in women.

Causes and pathology of calculi.—A division of the causes of calculi, founded upon their operation, immediate and remote, would be extremely difficult; nor, indeed, would it be possible always to preserve their distinct operation. The tendency to various deposits in the urine, seems to be connected with certain conditions of the system not always specifically determinable. In many, the predisposition seems to be hereditary; in some it seems associated with gout, which we know to be an hereditary disease; and lastly, a calculous diathesis seems not unfrequently to be acquired. Again, we find that there are several species of urinary deposits; and upon dissection of calculi, it has been observed that there are but very few instances of calculi consisting of purely one species only. We find that they consist of mixtures of one or more of the principles, either intimately and confusedly intermixed, or that one or more of these varieties alternate with each other, shewing that at different periods the urine deposits different kinds of sediment. The table annexed, copied from Dr. Prout's work on the Urinary Organs, shews the composition of calculi found in the collections of different localities, and therefore may be considered a kind of statistical view of the different localities.

In this table it will be seen that the first column gives the general character; the second the particular species: the next columns point out the collections, and consequently the localities, while the next presents us with a general summary.

When we compare the results furnished by this table, we find that the calculi comprehended under the head of lithic acid—that is, all those in which this principle predominates—form somewhat more than one-third of the whole number; and this proportion holds

* Feminæ vero oras naturalium suorum manibus admotis scabere crebro coguntur: nonnunquam, si digitum admoverunt, ubi vesicæ cervicem is urget, calculum sentiunt.—*Cels.* lib. ii. cap. 7.

Table of the Composition of Calculi

In different Collections, determined by Brande, Marcet, Henry, and Smith, from Dr. Prout's work on the Urinary Organs.

General Characters.	Particular Species.	Hunterian Museum. *Brande.*	Norwich. *Dr. Marcet.*	Guy's Hospital. *Dr. Marcet.*	Manchester. *Dr. Henry.*	Bristol. *Mr. Smith.*	Particular Totals.	General Totals.
Lithic acid	Nearly pure ..	16	66	16	71	74	98	294
	Mixed with a little oxalate of lime	..	..	6			6	
	Mixed with a little of the phosphates	45	..	..			45	
Mulberry, or oxalate of lime	....	6	41	22	11	33	113	113
Cystic oxide	....	..	..	1	2	..	3	3
Phosphates	Nearly pure ..	12	..	..	4	..	16	202
	Mixed with a small portion of lithic acid ..	66	..	..	18	..	84	
	Phosphate of lime, nearly pure	..	4	3	..	1	8	
	Triple phosphate, nearly pure....	..	..	2	..	1	3	
	Fusible or mixed calculi	..	49	24	..	18	91	
Alternating calculi ..	Lithic and mulberry ..	..	15	..	..	..	15	186
	Mulberry and lithic	..	..	..	11	29	40	
	Lithic and phosphates	..	..	..	39	12	51	
	Mulberry and phosphates	..	1	..	16	32	49	
	Lithic, mulberry, and phosphates	..	..	..	..	..	..	
	Mulberry, lithic, and phosphates	5	..	..	7	..	12	
	Fusible and lithic	..	1	..	..	..	1	
	Fusible and mulberry ..	..	2	..	..	..	2	
	Composition not mentioned	..	..	6	..	10	16	
Mixed or compound calculi ..	Mixture not mentioned	..	2	7	8	8	25	25
		150	181	87	187	218	..	823

throughout nearly all the individual collections, with the sole exception of that at Guy's, in which it amounts to about a fourth of the whole. Lithic acid is by far the most common nucleus upon which calculous matter is deposited; it therefore becomes a legitimate inference, that nearly two-thirds of the entire number of calculi originate from lithic acid; for if a nucleus of this principle had not been furnished, and remained in the bladder, no calculous deposition would have taken place; consequently, two out of three of those who now suffer from stone would have enjoyed a complete immunity. This is a fact of considerable importance, and deserves serious consideration.

Now lithic acid separates from the urine under two modes—the *amorphous* and the *crystallized* form. It has been already shewn, that when it assumes the amorphous form, it is usually combined with ammonia, and appears as a lithate of ammonia; but when it assumes the crystallized character, it for the most part consists of lithic acid, nearly pure. "Now this distinction," says Prout, "appears to me to hold good with respect to lithic acid calculi, some being composed of amorphous sediments and some of the crystallized, but in by far the greater number of a mixture of the two." ... "Every one," continues the same respectable authority, "I repeat, must have remarked this circumstance; and the natural inference appears to be, that the red crystallized calculus is composed of the red crystallized gravel, and the earthy amorphous one of the amorphous sediments: and this inference seems to be justified by experiment; the crystallized calculus being, according to my experiments, composed of nearly pure lithic acid, and the amorphous one of lithic acid, more or less of ammonia, generally a little of the phosphates, and sometimes a small portion of the oxalate of lime. The lighter the colour, the greater in general the proportion of the lithate of ammonia and the phosphates*." Here are calculi in which you may see these doctrines fully confirmed, and no doubt the principle just now stated generally obtains.

Of the varieties of lithic calculi, the amorphous appears to be the most frequent, and the crystallized lithic acid comparatively much more rare, which appears to obtain only in the largest descriptions, but a mixture of the two is the most common. Lithate of ammonia is by far the most rare, and seems to be confined rather to children or those under the age of puberty.

* On the Urinary Organs, &c. pp. 100, 101.

From the same table, if we examine the general totals, we shall find that oxalate of lime, or the mulberry species, constitutes somewhat less than one-seventh of the whole of the calculi. But we do not find that this ratio prevails throughout the different collections, but that the proportions in this respect differ very much from each other. Mr. Brande found only six mulberry out of one hundred and fifty which he examined, which is very nearly in the ratio of 1:26; and even of these, Mr. Brande asserts that the purest contained as much as 35 per cent. of foreign matter. At Guy's Hospital, Dr. Marcet found twenty-two out of eighty-seven calculi to consist of oxalate of lime, which is nearly one-fourth of the whole; and in the Norwich collection, according to the same authority, out of one hundred and eighty-seven, forty-one were oxalate of lime—a proportion nearly coinciding, though somewhat short of that at Guy's. At Manchester, only eleven out of one hundred and eighty-seven were composed of of oxalate of lime, which is exactly in the ratio of 1:17; and at Bristol, according to Mr. Smith, of the two hundred and eighteen calculi which he examined, he found only thirty-three to consist of oxalate of lime, which is exactly as 1:6. But when we come to compare all the calculi containing this substance, nearly one-half would be found to be composed in some degree of oxalate of lime, and therefore it may be inferred that this species prevails to a great extent in the district of Bristol. The rarity of oxalate of lime in the Hunterian collection examined by Mr. Brande, compared with the frequency of the same in the Bristol district, presents a subject for interesting inquiry.

The rarity of cystic oxide affords no data upon which to estimate the ratio of its prevalence. This substance, however, has been more frequently met with since; but still there is no inference to be drawn in relation to our present investigation.

The phosphates generally seem to constitute about a fourth of the whole. Of the eight hundred and twenty-three calculi examined in the foregoing table, two hundred and two consisted of the phosphates generally; and ninety-one of these are constituted of the fusible or mixed phosphates, forming about one-eighth. But the inferences deduced cannot be depended on as correct, for many may have contained a lithic nucleus. Many of the calculi were not sawn through, and therefore the external layer only could be examined. This was the case particularly in the Norwich collection, as Marcet thus expresses himself:—"But I must not omit to observe, that when these calculi were

entire, which was frequently the case, I could only ascertain the nature of the external surface, unless the layer contiguous to this presented spots sufficiently uncovered to admit of being examined *."

As a lithic nucleus prevails even with the phosphates—for when sawn through, and thoroughly examined, a lithic or oxalate of lime nucleus is generally found—a large proportion of the calculi examined by Brande and Dr. Marcet, and arranged by them under the head of the phosphates, probably are formed upon a lithic or oxalate of lime nucleus; and therefore perhaps would more strictly be referrible to the alternating class. Dr. Henry found only four instances out of the hundred and eighty-seven which he examined, the entire composition throughout being exclusively the earthy phosphates. Mr. Smith found twenty to consist principally of the phosphates. From all the observations and facts which have been collected, it would appear that the proportion of calculi composed essentially of the phosphates has been estimated much too high; and the ratio of those composed wholly of the phosphates is indeed extremely small.

The alternating calculi are, indeed, extremely important, because it points out to us the different transitions, as well as the order of succession, which generally prevails. From the table, it appears that one hundred and eighty-six of the whole were of this description, which is somewhat less than one-fourth, and rather more than one-fifth. Were we, however, to take this average, we should be greatly in error as to the real facts. If the particulars of the table be examined, it will be found that an unaccountable difference in the proportions prevails amongst the individual collections. Thus Brande found only five; the Norwich collection shews only nineteen; in Guy's only "six compound calculi in distinct layers" are mentioned; while Henry enumerates seventy-three under this head, and Mr. Smith eighty-three. These differences in all probability depend upon the different modes of arrangement adopted by the respective investigators. With respect, however, to the particulars, Dr. Marcet found fifteen calculi in which the lithic acid alternated with the oxalate of lime—a variety of which none of the other collections present a single instance. Dr. Prout gives a very interesting description of a calculus of this sort. "He dissected a calculus," he says, "composed of lithic acid, oxalate of lime, and afterwards lithic acid again, with the view of ascertaining the transition from one species to the other. The change appeared to take place *ex abrupto*—that is to say, on the surface of the lithic calculus, which was a well-marked crystallized one; there was a very thin layer of a lighter colour, composed of lithic acid, lithate of ammonia, and oxalate of lime, intermixed; and upon this the oxalate of lime was immediately deposited in the crystallized state. The transition back again from the oxalate of lime to the lithic acid was still more abrupt, and absolutely without any perceptible intermediate state that I could observe; a plain proof that some time must have elapsed between the deposition of the different calculous matters. The oxalate of lime in this instance consisted of two distinct laminæ, the internal of which was beautifully crystallized in the form of rays perpendicular to the surface of the calculus, while the external consisted of a congeries of distinct crystals (some of them almost transparent), which rendered the external surface slightly rough and tuberculated *."

The next variety in our table is the mulberry and lithic, and we find the three first collections wholly destitute of it, not a single instance being mentioned; while in the Manchester it forms about one-seventeenth of the whole collection, and about a seventh of the Bristol. Again, we find the first three collections wholly deficient in the next variety—a very common one—the lithic and phosphates. At Manchester it constitutes between a fourth and fifth of the whole; and at Bristol about one in eighteen are stated to be of this description. Upon the transition from the lithic acid to the phosphates, Dr. Prout makes the following very valuable remarks:—"If," he says, "the calculus has originally been of the crystallized variety, the first symptom of change is commonly the disappearance of the crystallized character, and the substitution of the amorphous one in its stead; at the same time the colour becomes paler. These characters gradually increase till the fracture becomes perfectly amorphous, and the colour a pale clay brown, and very soon after this the phosphates begin to prevail entirely. These changes indicate that the transition from lithic acid to the phosphates takes place through the lithate of ammonia, and that it is accompanied by the disappearance of the usual colouring principle of the urine. It may, however," he continues, "be remarked that

* On Calculous Disorders, p. 115. Dr. Yelloly has since examined the entire collection at Norwich, consisting, if my recollection serves me right, of upwards of eight hundred calculi. His papers on this subject are published in the Philosophical Transactions, and may be consulted as affording some very valuable information upon this subject.

* On the Urinary Organs, p. 107.

we rarely meet with the above series of changes complete, the perfectly crystallized variety of lithic acid seldom passing to the phosphates; while on the contrary, the pale amorphous variety frequently passes into the phosphates, or contains them mixed*."

The alternation of the mulberry and phosphates is not found in the collections of these first columns, while in that of Manchester it forms an eleventh, and in the Bristol a seventh of the whole. And a difference even between these two collections is found, the mulberry species predominates in the Bristol, and the lithic in the Manchester.

It is rather singular that there should not be an instance of the alternation of the lithic mulberry and phosphate—an alternation by no means uncommon. In this plate 7, fig. 3, of Dr. Marcet's work, there is a very good representation of this description of calculus, in which you see first the lithic nucleus in *n;* next you see the tuberculated oxalate of lime in *m;* and lastly, the fusible covering externally in *f*.

The next varieties to which I shall direct your attention, are the fusible and lithic, and the fusible and mulberry. Of the first there appears but one, and of the second only two, making an aggregate of but three out of eight hundred and twenty-three, in which the phosphates were found surrounded or followed by other calculous deposits, a ratio of 1:274. Hence Dr. Prout deduces the very important law—*that a deposition of the mixed phosphates is never followed by any of the other depositions.* Dr. Prout has never seen any satisfactory exceptions to the universality of this law, and such exceptions as have presented might be readily explained. Thus, for instance, a small prostatal calculus escaping into the bladder and becoming a nucleus for the deposition of lithic acid, might thus present an apparent exception. Dr. Prout mentions an instance in which a prostatal calculus escaped into the bladder, and the urine was at the same time acid, and consequently had it contained an excess of lithic acid this would have been deposited upon the prostatal calculus, and have presented at least an apparent exception to the law. Dr. Marcet, in plate 8, fig. 8, gives the representation of an altenating calculus, in which all the species are found in concentric layers: first, the lithic nucleus is found in the centre; a layer of bone earth is next, which is surrounded by the oxalate of lime; and external to all is the fusible crust of mixed phosphates.

Now, upon a review of all these facts, we gain some very important information. We find the lithic acid by far the most frequent urinary deposit; and that in a great majority of instances it forms the nuclei for the other species. Upon comparing the composition of calculi, we find them varying considerably from each other, both in their general characters and in the proportion of their constituents. But still we do not find so great a variety in the number of elements as that they cannot readily be reduced to a few, to which the composition of all calculi, in a practical and pathological point of view, may be conveniently limited. If we examine this matter we shall find that they may be reduced to four distinct principles, namely,

Lithic acid, and its salts or compounds.
Oxalate of lime.
Cystic oxide.
Earthy phosphates.

These Dr. Prout proposes to regard as constituting so many distinct and separate diatheses, as these principles are very seldom or never found in excess in the same urine at the same time. The lithic acid he places first in importance, not only because it constitutes the most frequent constituent of calculi, but also most frequently gives origin to the other species, by affording the primary nucleus around which the other calculous deposits composing them concrete.

The next in importance to the lithic acid is the oxalate of lime, as it appears to exhibit more decidedly the characters of an original diathesis, as it so frequently forms the nuclei of renal calculi. The cystic oxide is very rare; but as far as facts and observation enable us to infer, it is always of renal origin, and seems to exclude, when present, every other diathesis, as we shall have an opportunity of seeing when we come to consider the nature and characters of this diathesis. The phosphates naturally, indeed, come to be considered last. First, because they rarely constitute entire calculi; and while they succeed to the other diatheses, which, if protracted, invariably terminate in the phosphatic, yet the phosphates themselves are very rarely if ever followed by any of the other diatheses. The immediate cause of calculi is the deposition of the calculous principle by the urine which cannot retain it in solution. The circumstances which render the urine incapable of holding these principles in solution, and thus allowing their separation and deposition so as to form calculi, will probably be better considered under each particular diathesis; for, as the nature of the deposit varies, so will the condition of the urine, upon which the deposition depends, be found to vary in a corresponding degree.

Ibid. p. 108.

LECTURES

ON THE

VENEREAL DISEASE,

Delivered at the Aldersgate School of Medicine, March 1839,

By F. C. Skey, F.R.S. &c.

Lecture VI.

ON NON-VENEREAL SORES.

Herpes Preputialis.—Chronic form of the Disease. — Immediate and remote Causes. — Psoriasis Preputialis. — Cause.—Superficial Ulcerations of the Prepuce.—Resemblance to a Syphilitic Chancre.—Thickening of Prepuce preceding the appearance of the Ulcer. —Excoriation with or without Purulent Discharge or Gonorrhœa Preputii; occasionally confounded with true Gonorrhœa.—Operation for Phimosis, or removal of Prepuce by Excision.—Reference to previous Doctrines relative to the inapplicability of Mercurial Treatment in Ulceration.—Mercury an efficient Remedy in proportion as Ulceration is slow. —Bubo, Treatment of.—Necessity of selecting the most opportune moment for opening all Abscesses.—Treatment by Opium in Chronic Cases.—Mr. Hunter's Testimony to the Value of Treatment by Opium.

The affections of the glans and prepuce, that, being situated on these surfaces, may be confounded with those of venereal origin, are herpes preputialis, psoriasis, superficial ulceration, superficial ulceration with thickening, partial excoriation, and extensive excoriation with purulent discharge, or gonorrhœa of the prepuce.

Herpes of the prepuce may appear on either surface of that fold, more generally perhaps on the inner. It consists in a crop of minute whitish vesicles, varying in number, from two or three to half a dozen; occupying a third or a fourth of the circumference, and acquiring as they advance an areola of inflammation. When seen early, they contain transparent lymph, which becomes puriform. They coalesce and form a thin scab: this separates and discloses an irregular ulcer, quite superficial. They are rarely attended with actual pain, but generally with an itching sensation; to relieve which, they are often subject to violence from rubbing. By such means the disease is aggravated, the prepuce becomes inflamed and œdematous, pain is felt along the track of absorbents on the dorsum, and bubo is no infrequent consequence. In this condition of the penis the surgeon is consulted, who, hastily observing the enlargement of the inguinal glands, the tumefaction of the prepuce, and the presence of a sore on the interior, assures his patient that he is poxed. The patient contents himself with the declaration that he has had no promiscuous intercourse for twelve months previously. "Impossible!" exclaims the doctor; "I know better: a sore with bubo, and not venereal—you are surely mistaken." Positively the patient asserts that he has spoken the truth. "You may think so," replies the doctor, "but I cannot be mistaken in a case so unequivocally distinct, and you must, at all events, take mercury." Mercury is given, and the case improves, as it would have improved without. "Now," says the doctor, "you are convinced that I was right; I knew I could not be misled; this is all that is required to prove its venereal character, for you observe mercury has arrested it. I doubt not that it has saved your glans, to say nothing of your nose and palate, all of which might have fallen a sacrifice to the virulence of the poison." To carry this case on to another stage: suppose the gentleman, at any period within the next twelve months after his convalescence, to have sore throat after exposure to cold. "Here's a touch of our old enemy," says the same intelligent surgeon; "let us see the throat. Ah! unequivocally venereal. I could swear to that throat, that redness and swelling of the tonsils, that pain and difficulty of swallowing. Have you no eruption?"—"Positively none." The patient is subjected to another smart course of mercury, which may not materially protract his cure; and the doctor again enjoys the flattering unction, that his discrimination has saved from great suffering his deluded patient.

This doctrine has been severely reprobated, during the last fifteen or twenty years, by all reflecting practitioners. To conclude, because mercurial action or irritation effects a salutary influence on venereal ulcers, that *ergo* all diseases benefited by mercury are venereal, is on a par with the same argument applied to iritis—viz. that because one form of that disease, when coupled with syphilis, is amenable to treatment by mercury, therefore every form of iritis curable by mercury is syphilitic.

When herpetic disease of the prepuce has advanced—when it is attended by considerable tumefaction of the prepuce, and has finally assumed a chronic state—its aspect bears no apparent resemblance to the disease that produced it: the whole glans appears of a bright red colour from excoriation, and the prepuce has acquired a preternatural and fleshy thickness, which prevents its withdrawal behind the corona, or in which this object may be effected only with great difficulty. This is eczema of the penis, or rather of the glans and prepuce, and a disease very obstinate of cure.

The cause of herpes preputialis is simple local irritation, often occasioned remotely by disordered or disturbed action of the digestive system. It is often occasioned immediately by disordered or rather suspended action of the glandular bodies that surround the fossa glandis, following the continued action of stimuli prescribed for excessive secretion of those bodies. I have repeatedly known herpes caused by the daily application of irritating soap or stimulating injections, by which the action of the glands of the fossa was suspended, occasioning a preternatural dryness of the surface.

The treatment of herpes is very simple, and the more simple the better,—an aperient, and the frequent application of cold on the surface. If the prepuce be swollen, the attempt to retract it may excite irritation; and the cold application may be injected underneath the glans, and retained there for a few seconds, three or four times during every twenty-four hours. If exercise be imperative, care is required to prevent friction of the prepuce in walking; but it is better for the patient to remain quiet for a day or two. I recommend cold water; but a small quantity of lead (subacetate) may be added. When the scab has separated, the superficial ulcer then exposed will generally heal without difficulty; and it may be dressed with unguentum cetacei, or a much diluted citron ointment, or that of the oxide of zinc. In the more advanced stage the oxide of zinc ointment, diluted with an equal quantity of simple ointment, should be lightly rubbed over the whole surface, and retained for about twelve hours out of the twenty-four. It should be then removed by washing the surface with some unstimulating soap; and the smallest quantity of olive oil may be applied. The stimulus may be gradually increased as the disease recedes. I have occasionally used with advantage an ounce of olive oil to a drachm of spirits of wine.

Stimulants are very objectionable to that form of herpes which arises from suspended secretion of the glands which surround the fossa—the glandulæ odoriferæ. The evil is aggravated by too frequent cleansing. The natural secretion should be encouraged, and the glans may be lightly anointed with olive oil simply, which should be removed in twelve hours, otherwise it becomes rancid, and increases the evil. The oil may be removed by the application of dry lint, which is preferable to washing, and should then be reapplied.

Psoriasis Preputialis.

Psoriasis preputialis appears in the form of cracks around the margin, attended by a degree of tumefaction of the prepuce: any attempt to withdraw the membrane aggravates the mischief, and occasions pain, often considerable. I confess I do not understand the ground on which this disease is named psoriasis. Psoriasis is classed by Willan among the squamæ, and consists in a desquamation of cuticle on an inflamed base of skin. Were it nothing more than a cutaneous disease, it would be difficult to explain the liability to bubo which occasionally attends it; but in reality it is something more. It is a disease involving the whole thickness of the prepuce, exhibiting deep chaps or clefts, which bleed on separating them, and the irritation of which causes some tumefaction. From its situation, the evil is often increased by the friction of the clothes. Inflammation of the prepuce is a natural consequence, accompanying the extension of the malady.

The treatment should be simple, and slightly stimulating. Mr. Evans recommends the Ung. Hydr. Nitr. somewhat diluted, than which I can tell you nothing better; but you will find it often very obstinate.

Psoriasis preputialis, when occurring in unhealthy constitutions, or when aggravated by the long-continued application of dirt, is an exceedingly obstinate disease. I have generally resorted to the continual application of a poultice, and found advantage from the use of black or yellow washes. It occurs in strumous habits not very rarely, and is often referred to the eccentric irritation of a stricture in the urethra. I doubt the truth of this suggestion, however. When this treatment is of temporary avail only, and the repetition of either this or the preceding malady becomes inveterate, it is very desirable that the prepuce should be removed, by which operation the liability to relapse is, to say the least, greatly diminished. For this purpose, it is not sufficient that the prepuce be merely divided, as adopted for the relief of phimosis, but the membrane must be removed; to accomplish which, it should be drawn forwards with some force, and cut off closely in front of the glans. A probe-pointed bistoury being then passed backwards should include the whole of the remaining fold, in order that the corona may be thoroughly denuded of its natural covering.

The prepuce is subject to the formation of small superficial ulcers, preceded by the slight itching of a pustule, which bursts without scabbing. Some persons are especially liable to them: they probably originate in a single vesicle instead of a cluster, as in herpes, which is more active in character than the latter disease, or this would probably form a scab. The ulcers

when first observed are very minute, and extend slowly till they become very distinct, having, however, no characters by which they may be distinguished from a slow venerola in the ulcerative stage, if we except the more determined progress of the latter. These ulcers may be single, or two or more may coalesce; but they always remain, however large in diameter, perfectly superficial. I have seen them again and again in persons perfectly free from all grounds of suspicion of a venereal contamination. Indeed, their birth, progress, and entire character, would belie the suspicion of any other than a simple cause. Sometimes these small ulcers, instead of spreading, will simulate the character of a real syphilitic chancre: they may acquire, not hardness, but positive thickening, which thickening shall be disproportionately large to the surface ulcerated. Again, the prepuce being retracted, will roll instead of being smoothly reverted, as, indeed, it always must, whenever its natural flexibility is destroyed by the deposition of lymph between its duplicature. Nay, the resemblance is so close, that we occasionally find the thickening preceding the ulcerative process, and it is often difficult to detect the precise spot on which the ulcer is situated. It is this fact that makes me doubt the specific character of the induration of syphilis, which I consider to be rather the nidus of disease than disease itself. I do not by this deny the specific nature of that disease, but that symptom only which is characterized by the indurated base, for I have repeatedly seen common sores on the penis attended by it.

This form of ulcer, whether accompanied with thickening or not, will always yield to ablution with cold water, the application of nitrate of silver, and moderate attention to the digestive system. The nitrate of silver should be very lightly applied to the ulcerated surface, and a dressing of spermaceti ointment laid upon it. Blue-stone is nearly as efficacious, but not quite. After which, the surrounding inflammation, whether limited, or extensive and involving the whole prepuce, rapidly subsides, and the ulcer, aided by a second or even a third application of the escharotic, heals. On what principle nitrate of silver acts in these and similar cases, I do not know—whether as an escharotic or merely as a stimulant. Much has been said on this subject: I am, for the present, contented to know that it and similar applications will cure the disease.

The absorbents are very liable to convey the irritation of these sores to the groin; but though I have seen many examples of enlarged glands accompanying them, I do not recollect to have seen one suppurate, nor, indeed, to advance far towards it.

Partial excoriation, and excoriation with purulent discharge or gonorrhœa of the prepuce and glans.

The partial excoriation, which appears in patches generally on the corona glandis, most frequently arises after sexual intercourse, as the result of mechanical friction on an unhealthy surface. The patches are somewhat circular, and present a livid colour, being mere abrasions of the cuticular surface of the glans and prepuce, from which, in the first instance, serum exudes. The locality of this simple form of injury appears unfavourable to the healing process, for the serum is often converted into pus, and the surface becomes flocculent, and then granular. The prepuce may become inflamed, and the ulcerative process extend within, when ordinary attention is withheld, and this not infrequently occurs in persons of the lower classes.

The sores should be washed with any mild stimulating lotion, as sulph. of zinc, 2 grs. to an ounce; or 1 gr. of sulph. of copper; or spirits of wine, ʒij. to ʒj. of water. If the surface be granular, a little of the flue of dry lint scraped should be applied after the lotion, and the whole surface cleansed of its secretion.

Excoriation of the corona and fossa is often the product of disease of the follicles of that region, the function of which, when considerably deranged, is repaired with difficulty. Its remote cause may be the application of irritating matter during connexion, or quite independently of such cause, it may arise from neglect of cleanliness, and appear spontaneously. It most frequently arises from neglect of a morbid condition of the sebaceous follicles (glandulæ odoriferæ), which may have existed for a longer or shorter period, which secrete a thick white pasty-looking matter, having a disposition to cake around the corona and fossa: at other times this secretion is soft, and of the consistence of cream. It is in this state of the parts that those extensive excoriations of the glans and of the prepuce occur, the secretion from which constitutes *gonorrhœa of the prepuce.* When extensive, it involves the interior of the prepuce, and spreads over a considerable portion of the glans, on denuding which a large tumefied surface is exposed, secreting moderately healthy pus, and presenting the raw excoriation which constitutes the disease. The whole prepuce becomes swelled, and a tendency to phimosis is a necessary consequence. In this condition, retractation of the membrane being difficult and painful, the endeavour to accomplish it is at length relinquished by the patient, and the disease may be mistaken for gonorrhœa; to which, on account of the often profuse discharge, the inflammation of the

prepuce with partial phimosis, and the enlargement of one or more inguinal glands, it bears considerable external resemblance. The important symptom of gonorrhœa, however, is wanting—viz. ardor urinæ, and by this alone may it be generally at once determined. Not that I think any patient of common intelligence who had been the subject of former gonorrhœa could mistake the requisite reply to the question, "Have you pain in making water?" But I have known instances to the contrary, where this appeared as the first occurrence of disease of the genital organs in young men. In hospital practice we often find these cases of very long standing; and what with the disease, and what with the extra stimulus of dirt, their diagnosis is not very easy.

Weak solutions of alum, of sulphate of zinc, dilutions of spirits of wine, all weak in proportion to the activity of the disease, will generally arrest it very speedily. An ordinary case may be cured in about 48 hours by either of these applications. When advanced, however, the exposure of the excoriated surface to the air, after washing with soap and water for a few minutes, will benefit it; and the lotion may be resorted to at the expiration of a few hours. After the surface has cicatrized, care should be taken to prevent its recurrence, by the daily application of a small quantity of olive oil, with a few drops of spirit, which should be renewed after about twelve hours' application. When inflamed, cold washes may be applied around the prepuce, and exercise prohibited; but this will not frequently be found necessary.

The diseases which I have just described are rarely found in persons whose glans are habitually denuded of the prepuce, in whom the cuticular lining of these surfaces becomes firm and dry, and consequently insusceptible of those forms of irritation which are the immediate product of the diseases in question. Some persons, although unaddicted to indulgence in women, are the almost perpetual subjects of one or other of these maladies, and in whom they are the fruitful parent of annoyance and expense. In such cases it were far preferable to adopt the only approach we can make to a radical cure, by removing as much of the prepuce as can be excised without danger to the glans in the operation; by which means the natural susceptibilities of the parts are destroyed, or rather removed, and the skin shortly acquires a condition very unfavourable to the repetition of the evil.

Before I leave this subject let me enjoin on you the necessity of personal observation in these matters. Do not be driven by authority to suppose all maladies of the genitals must necessarily be venereal, because venereal disease first appears in that surface. Why should the glans penis, with its structure so peculiar, possess an immunity from disease from which the conjunctiva or the tonsils are not free? There is no reason why it should. You need not commit yourself by an opinion for some days. Watch the case for at least a week, unless it is phagedænic; you must then adopt more positive treatment; but depend upon it, the large majority of venereal sores are better let alone, as regards active treatment. You may always guard yourselves by stating that the sore will extend for some days, and perhaps reach three or four times its present size, before the ulcerative disposition will be exhausted, and that you will then treat it. Do not give mercury to arrest ulceration, for mercury will not arrest it. If you give mercury at all in ulceration, it is not for the ulceration, but for the poison which produces it; and then comes this important question—whether the ulceration is a direct consequence of the poison; for if it be not a direct consequence, mercury is not the treatment which either reason or experience will dictate. Very little observation is requisite to convince us, that the more active the ulcerative process, the less rapidly can we influence it by general means; and the means usually, but I maintain very inappropriately, employed to attain this end, is mercury. We do not use mercury for the ulceration, but for the cause of the ulceration, *i. e.* the supposed poison. Now the most rapid forms of ulceration occur in phagedænic disease—a disease which is often distinctly of spontaneous origin in certain conditions of health; and if not always spontaneous, probably communicable only to constitutions of its own kind. Where is the proof, then, of the presence of a poison to warrant the administration of mercury for its destruction? Phagedæna is an action, not a poison. Mercury has no other influence over the ulcerative stage of venerola than that of retarding it, while for the most part that of phagedæna is aggravated by it. In the indurated chancre, in which the ulcerative action is secondary, mercury is valuable; but then it does not act on the ulceration, but on the indurated base, from which the ulceration proceed, and that most torpidly. The process of ulceration is often held in check by syphilis, and the salutary influence of mercury may be tested by the ulcerative action being, as it were, let loose, for no sooner does the mercury exhibit itself in the system than the surface of the induration, when at all angular or exposed, breaks out into ulceration and gradually heals. I have observed this again and again in the indu-

rated frænum, which is rigid under the disease, but is destroyed by ulceration under the treatment. If we find, then, that mercury is advantageous in the torpid, that it is inefficient to any good purpose in the moderately active, and that it is actually injurious in the rapid forms of ulceration, may we not reasonably infer that, *quoad* venereal ulceration, mercury is not the antidote?

On Bubo.

I have a few words to say on the treatment of bubo, and they are as much in place here as in any other department of the subject, because nearly all that relates to it holds reference to the general principles of treating diseases, and not to either of the specific forms on which they attend; when present in phagedænic disease, they assume some of the characters of that form. I have already stated, that bubo by no means proceeds *pari passu* with the primary disease, but that it often advances for a time, and then recedes, although the sore extends uninterruptedly. Moreover, I have generally observed that the period of their often rapid subsidence, is that of the equally rapid increase of the primary sore. This applies, however, merely to the glandular swelling, and not to the open bubo. When the swelling suppurates, the wound then formed may partake of the character of the primary sore or not; but it will, under the most favourable circumstances, be more slow to assume healthy action, than ony other form of bubo; often indeed, it becomes phagedænic, and the healing process is greatly protracted, after the original sore has cicatrized.

As a general rule the glandular swelling of the groin is not amenable to local treatment, until it exhibit symptoms of suppurative inflammation; and I think in all its early stages the less you interfere with it the better. If the primary disease be advancing in an unhealthy constitution—if the patient be unable to forego exercise of every description, and more especially when the surface becomes discolored by inflammation—it will in all probability suppurate. This propensity may sometimes be checked, by leeches, from 6 to 10 early and repeated, by absolute rest, and the application of cold, and to these may be added a brisk cathartic. But these agents will only effect a good result, when the activity of the bubo is on the wane, and when the consequent action is vacillating and uncertain in its course. If the suppurative inflammation be established, of which the best test in phlegmon is local pain, the above remedies will not only fail in the object, but will prove most hostile to the end in view. I often recommend the application of a few leeches for the purpose of accelerating suppuration when at all protracted; but any considerable depletion will protract the suppurative stage, by raising a new and vicarious interest in the circulation at large.

Warm poultices and hot fomentations should now be prescribed to the end of exciting local action; the diet improved by increasing the quantity of the food, even to the allowance of a moderate quantity of wine or porter; even exercise may be permitted. The surface becomes soft; careful pressure of the finger will determine the first formation of matter by fluctuation; and the day and almost the hour is to be fixed as the crisis of the abscess, which should then be opened with a moderately free incision, not merely that of a puncture, but something more. It is very important to select this critical period, where time is an object: and all I can tell you on the subject is that the abscess should be tumid, and of a bright red colour over the whole of the projecting surface.

In this condition an abscess will often exhaust its own powers without bursting; the bright red colour will be gradually converted into the purple of venous congestion, and the cuticle will desquamate. In this neglected condition of the abscess, the surface next the skin will be too greatly reduced by ulcerative absorption, and too far disorganized by the protracted inflammation, ever to regain its natural structure, and it will either slough or ulcerate. In either case new substance must be formed, and hence loss of time to the patient. If the lancet be plunged into the mass too early, before the inflammation of the skin marks the crisis of the suppurative action, matter will be discharged undoubtedly, but not in quantity proportionate to that action. The action itself is not exhausted, and the wound will heal; or if not, the sac will continue to discharge for many days or weeks; and hence again loss of time*. These observations will apply to all forms of phlegmonous abscess, whether acute or chronic. If the medium time be selected, the abscess will heal in the course of a few days; if the early date, probably a fortnight or more may be required; if the late, the abscess will degenerate into an ulcer, for the healing of which a month or six weeks may not suffice.

These chronic forms of ulcer in the groin are most generally met with in hospital patients of low unhealthy circulation, from depraved habits. We find a flap of morbid integuments overlapping the ulcer, discoloured by long inflammation, and

* As I have said elsewhere, the only excuse for opening an abscess before it is *ripe*, is to diminish pain and its effects on the constitution, in promoting irritative fever.

forming a cavity in which the secretion of the surface gravitates; a form of ulcer that would without surgical aid probably remain for many weeks without making the slightest approach towards cicatrization. This morbid integument must be immediately removed or destroyed with caustic; and for the same reason in opening a phlegmonous abscess such as I have before mentioned, which becomes chronic before it bursts, the incision should be made in a direction to divide the largest number of its vessels, and if circular a crucial incision is preferable.

When the integuments are removed whether by nature or art, the sore may be filled with the flue of dry lint, and changed each morning, or night and morning according to the quantity of the secretion; and at the same time half a grain to a grain of opium may be given internally night and morning; under which treatment the sore will heal with a degree of rapidity, not a little astonishing to those who are unaware of the remarkable influence of opium in rousing healthy actions; and to the value of which suggestions I have received too high and too general testimony from my fellow-practitioners, to warrant any hesitation in strongly recommending it for your adoption.

Opium, says Mr. Hunter, "is a medicine capable not only of relieving pain, but of altering diseased actions, and producing healthy ones; for the future it will be given with another view than that it has commonly been, not merely to allay pain, but to cure diseases."

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By RUTHERFORD ALCOCK, K.T.S. &c.

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(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 369.]

II.—INJURIES OF THE HEAD.—ON THE ELEMENTARY FORMS OF INJURY AND THE CLASSIFICATION OF THEIR EFFECTS.

Various kinds of Injury.—Cause of the complicated nature of their signs.—True mode of studying the pathology of the Brain.—Necessity of carefully avoiding the deduction of general laws from inadequate data.—Classification of Injuries of the Brain: 1. *Concussion;* 2. *Compression;* 3. *Lesion;* 4. *Ramollissement.—Necessity of determining their symptoms singly, and then in various combinations.—System of investigation in such cases.—Analysis of the causes of stertorous breathing—not a sign of any particular form of injury or compression.—Progress of the case.—Post-mortem.—Important points for observation.—Difficulty of establishing general diagnostic laws in these injuries.—Observations on the various kinds of morbid impressions on the brain.—Arrangement of cerebral organs and structure.—Remarks on general effects of cerebral injuries.*

SOME observations have already been made in a preceding lecture on fractures of the head, considered merely as a form of injury to the bones of the skull, with contusion or laceration of the external soft parts. I have now to call your attention to their most important feature—the accompanying or consequent injury on the parts contained, and first of the brain.

Observing this dense shell or case of triple layers, the skull, it is evident that no fracture can take place without considerable violence. And, if in addition to its texture we consider its vaulted form presenting an arch in every direction, we shall obtain the strongest conviction that no fracture can take place without certain effects on the organ it envelopes—among the chief of which is *Concussion*; and, further, that the brain must be liable to this effect, even to a violent degree, from blows which do not fracture the skull—from falls upon the other extremity of the spine whence would be communicated a vibratory shock or jar of the most injurious character.

But a blow on the head, with or without fracture of the bones, is capable of producing other effects on the brain and membranes than concussion—lesion of the medullary matter, rupture of blood-vessels, effusion of blood in the substance of the brain, or between the organ and its membranes, softening degeneration of the fibre—and in considering these injuries it is of some importance to be able to distinguish the nature and extent of these effects by certain symptoms or diagnostic signs.

To concussion—to compression by extravasation of fluid, another injury or complication may be superadded—the lodgement of a foreign body, as a musket-ball, within the skull; or the

bones themselves may be bent down with violence so as to project inwards on the brain, producing either lesion or violent compression, or both.

All or any of these injuries are capable of inducing inflammation in the brain or its membranes, going through all the stages from increased action to sloughing—another form, another consequence of injury.

The brain, as the organ by which the powers of the mind are manifested, as the grand organ and centre of volition and sensation, cannot be injured without some degree of disturbance of its various and complex functions. By an influence more or less direct follows lesion of the functions of all the important organs of the body: hence of all the accidents to which the human frame is liable, none are of more serious import to the life and intelligence of the patient, none offer such complicated signs or symptoms of the injury inflicted. Anatomists, physiologists, surgeons, have all since, the revival of letters, anxiously sought to trace each symptom to its cause, and make it the indication of a particular and specific effect; and all have signally failed in thus establishing the diagnostic signs of the various forms of injury inflicted on the brain and its membranes.

The manifestations of intellect disturbed by violence offer the most confused and uncertain guides, indicating, in truth, little beyond the existence of disturbance of which information may be obtained from other and physical signs. The sympathetic disturbance in all the important functions of the body — in respiration, the circulation of the blood, deglutition, the action of the liver and bowels—unless most carefully studied and classed, present the most variable and uncertain indication of the exact nature of the action or extent of the injury at any moment existing within the cavity of the skull.

The little certain knowledge, the few distinct guides to a correct diagnosis, which past labours have discovered, I propose to bring before you. And in detailing the result of my own observation on these injuries, I will endeavour, as far as possible, to unravel the complication of symptoms and effects which strike the observer while studying the nature and treatment of such cases at the bed-side. To attempt this with any fair prospect of success, I must beg your attention for a short time while I endeavour to define clearly the elementary forms of injury, the best mode of studying them, and the chief objects to be kept steadily in view.

The true mode of studying the pathology of the brain, it seemed to me when I first began my observations on its diseases and injuries, was first carefully to define all the elementary forms; then the complications superadded; and lastly, to note the symptoms of a number of parallel cases, and, in the event of death, minutely examine the alterations in structure, and so attach to the effects already observed the physical causes, whenever the links of the chain could be traced. Imperfect as even this must seem, it offered to my mind better prospects of a positive advance in our knowledge of causes and effects, as regarded injuries of the head, than any other means; for disease far more perfectly and beautifully illustrates the physiology and anatomy of organs than any experiments, however well devised. In a long continued series of observations, conducted with a view to improve our diagnostic powers and means of treatment, having the complete control and direction of large hospitals for several years, where injuries of the head were frequently admitted—sometimes fifteen or twenty on the same day—all apparently similar injuries, were placed side by side in parallel beds. Every succeeding day the opportunity was thus afforded of comparing at a glance the symptoms and appearances of each. From a careful record of a large number of these cases, I have endeavoured to draw some useful conclusions.

Keeping in view the complicated nature of the subject, I determined that many parallel cases would be necessary in order to form any safe conclusion. I therefore carefully avoided drawing deductions, thus to leave my mind unbiassed for the observation of facts, until notes had been made of a sufficient number. I did not begin to form any of the conclusions of which some account will shortly be given, until I had carefully observed and noted fifty cases of severe injuries to head and spine, giving rise to marked effects and symptoms. I thus felt entire confidence in the unbiassed accuracy of my facts, and felt entitled implicitly to rely upon

them, whatever the inferences to which they might give rise. I mention this, that the facts at least may be as implicitly relied upon by others, however the conclusions may be esteemed, which may or may not be strictly logical and warranted deductions. They have been made from a careful consideration of the large group of injuries and symptoms which a great number of cases furnish. In support of each conclusion I will select one or more of a set of parallel cases as the ground upon which it is established.

To pursue any inquiry with the best guarantees for a successful result, order and method in the steps taken, and a defined object, are essential. I was thus early led to form, for my own guidance, the following classification of injuries, by which an abstract was obtained of the chief objects to be kept in view, and the true end to be attained. As it is now given, some modification, and I think improvements, have been carried into it. Originally more complicated, it is now reduced to four elementary forms, the first of which is the giant power occasionally giving birth to all the others.

By thus classifying and carefully defining all the objects of the inquiry, the attention and powers of the mind are concentrated and directed in a single channel, by which men are always better enabled to avoid diffuseness and a desultory mode of investigation, that can lead to no great or useful result.

Injuries of Brain—Elementary Forms.

1. *Concussion.*—(Any vibratory shock or jar, whether produced by direct violence to the head, or indirectly through any other part of the frame.) These lesions are various, and give rise to numerous and very different effects. There may be loss of consciousness, volition, sensation, and motion—disturbance of the organic system and functions—destruction of one or many functions without perceptible change of structure in cerebral fibre—softening—disorganization—lesion—extravasation—effusion—inflammation of brain or its membranes—ulceration—partial gangrene—compression on weakened fibre by fluid *within* the vessels—permanent irritability or weakness of cerebral fibre.

2. *Compression* arises from many and very different causes; whatever the causes, certain effects may be classed as its consequences—viz. disturbed consciousness, sensation, and motion—disturbance of organic and excito-motory systems and their functions. Inflammation of the brain or its membranes—ulceration—gangrene.

3. *Lesion* of cerebral structure can never be simple, but must be complicated either by some disease producing that effect by extravasation, ulceration, &c. or by *concussion*, or the passage of a foreign body, and is coexistent with all these forms.

4. *Ramollissement* may either arise spontaneously, without other perceptible action or disease, or it may follow violence to the head, as the sole perceptible effect. It may also be a result of concussion, inflammation, &c.

Three of these elementary forms may exist separately, or all four may be variously combined as the consequences of each other; very frequently the three latter are observed as effects and products of the first. The great object of the surgical pathologist is to determine which of these forms of injury exist; whether simple or complicated by some combination, and in what that complication consists. To gain such power of diagnosis, it is necessary to determine what are the symptoms of concussion solely, beginning with its mildest form and ending with the gravest.

To determine, in like manner, the symptoms of each of the other elementary forms of injury, and the usual character and order of their effects, forms a next and equally necessary step. Then, and not until then, can we hope to investigate with any good result—what modification of appearances, effects, and symptoms, the supervention of one elementary form on the other produces—what the signs are indicating the various degrees of complication or combination of the elementary forms.

This investigation I soon found could only be productive of any satisfactory or useful fruit by following a well-devised system, which should ensure, in all cases, accurate and pointed observation on every feature of the injuries and their consequences. In order to obtain power of correct diagnosis, you will find it essential to do so.

In all notes of such cases let me recommend the following form or skeleton frame for observations and inquiries:—

INJURIES OF THE HEAD.

No.

NAME. *Age.* *Temperament.*

PREVIOUS HEALTH. *Occupation.*

PRESENT STATE. *Mode of Accident. Nature, site, and degree of Injury.* (These points should be defined with the utmost possible precision and accuracy.)

ANIMAL LIFE OR CEREBRAL SYSTEM.

Consciousness; Perception; Volition. (The degree and kind of disturbance, if any.)

Sensation. (Cerebral sensation is evinced by volition—by voluntary motion; but as there is motion from impressions or sensations conveyed to the spine as a centre or axis, it is necessary to distinguish these two sources of motion, and not confound them, inasmuch as there may be total abolition of cerebral sensation, with a perfect development of the functions of the spine, or true spinal system, as it has been termed. Our modes of judging of cerebral sensation may be referred, 1st, to the iris, which, by its contractility, may imply unimpaired sensation, or, by its immoveable dilation, the reverse; 2dly, the sensibility of the skin, the manifestations of pain. If there be consciousness of this, there may be impaired cerebral sensation, but not abolition of it. As far as possible, the kind, degree, and locality of its evidences, should be defined.)

Volition and Motion. (Separated from spinal impressions and reflex motions, which may take place without the intervention of the cerebrum. The degree remaining, and the different parts affected or paralysed, should be defined. Temperature of those parts compared and noted. Voluntary motion is frequently spontaneous; thus we may often decide whether any which takes place is to be referred to the excito-motory or the cerebral system.)

ORGANIC LIFE.—GANGLIONIC OR NUTRIENT AND SECRETORY SYSTEM, AND THE EXCITO-MOTORY OR TRUE SPINAL SYSTEM.

Respiration. (Character and number of inspirations. Respiration, it must be remembered, is a mixed function. Sir C. Bell considered the medulla oblongata the source and *primum mobile* of the respiratory actions. It seems, indeed, to be the nervous centre; but the true source of the movements which, combined in the medulla, form the act of respiration, as Dr. Hall has pointed out, are certain excitor nerves, consisting chiefly of the pneumo-gastric, also of the fifth and spinal nerves. But there is still another point of great importance, viz. that the characters of the respiration, and the sounds by which we sometimes classify it, as "stertorous breathing," &c. depend upon the apparatus of the air-tube, and the muscles, &c. at the entrance. Hence paralysis, more or less complete, of these nerves entirely alters the character, and these, in a great measure, are independent of the cerebrum. Thus, if the superior laryngeal nerves be divided in a rabbit, great distress of breathing succeeds, the aperture of the glottis is no longer held open; and this you see, without any lesion or injury to the brain whatever. To this I must recur hereafter; for some very erroneous conclusions have been founded upon respiratory signs in head injuries.)

Circulation. (Character and number of pulsations per minute. The action of the heart, to a certain extent independent both of the cerebral and sympathetic system, receives, nevertheless, strong impressions and influences from both. Into this question it is impossible now to enter; but in all these cases the pulse should be frequently and carefully noted.)

Secretions. (The ganglionic is the nutrient or secretory nervous system, for the most part independent of other systems, although intimately united to the brain and spine, and not beyond the possibility of even very strong impressions from either the one or the other. It may or may not be affected by severe injuries to the brain or spine. The degree and order in which its functions are affected, afford important indications, hitherto, it has seemed to me, not well classified or understood. The secretions of the liver, bowels, and skin, are those most readily and ordinarily affected, and in that order. The state of the sphincters throughout the body are amongst the most important indications in severe injuries of the head. In a normal state the

reflex function or system presides over the orifices of the body; the nerves which convey the sensations to the medulla oblongata or spine are distributed chiefly about the larynx and pharynx; these referring to the medulla oblongata, and about the sphincters of the bladder and anus, in connection with the lower part of the spinal marrow. In fact, to this division of the nervous system is specially entrusted the regulation of the orifices and exits of the human frame. It governs the acts of ingestion, deglutition, and respiration, of excretion of the fæces, urine, and semen. The difficulty in respiration and deglutition, or the relaxed state of the sphincters at the lower part of the body, may imply the last and worst degree of cerebral injury: they may exist without any injury whatever to that organ, or that which is more likely to mislead, with an injury *which is not the source of the impaired power.* You will now see, that the stertorous breathing, and the involuntary discharge of fæces, which, in all works, you will find descriptive of the worst form of injury to brain—by some referred to lesion, by others to compression, concussion, &c.—is, in effect, the result of a relaxed state of the sphincters which regulate the orifices, producing, above, stertorous breathing, from the aperture of the glottis being no longer held open—below, involuntary discharge of fæces. You now know, also, that while, on the one hand, these actions of the true spinal system are capable of being affected or annihilated by lesion of the cerebral functions, yet they may be long unimpaired during the total abolition of the true cerebral: and without this knowledge, it is impossible that you should draw true diagnostic signs from these effects. In the same manner, paralysis of a lower limb may take place without impaired action of the sphincters. What does this indicate? That it is a cerebral paralysis, a loss of all voluntary motion—a loss, in truth, of power of volition, not of motion; but the two conjoined indicate the implication of the excito-motory system. There may be a total paralysis, either from the spine alone, preventing the communication of cerebral volition, which may exist unimpaired; or both systems may be engaged, producing the most complete form of paralysis. It is only when the excito-motory system is affected by the influence of the cerebrum upon the spine, that we have the worst features and most fatal indications. You see what different indications, as regards injury to cerebral function and structure this one effect of paralysis affords, when truly understood; and, otherwise considered, to what serious errors it might give rise in diagnosis and treatment.)

Progress of the Case. (The points referred to under the above heads having all been ascertained, and accurately stated. It is necessary each day, in the same order, to note the indications offered in every class, and thrice a day, if the patient's condition varies frequently. This must be continued untill the death or final recovery of the patient.

It is well to underline any change or deviation from the previous report, the more certainly to fix the attention. The treatment each day, and any apparent action of the remedies employed, must of course, be recorded.

Pains should be taken in defining the injury to the functions of animal life, to ascertain, as far as possible, and record which of the intellectual faculties are affected, and to what degree. If dismissed from treatment, a careful note of his state at the period of dismissal should close the case; if death is the result, then an accurate and detailed account of the—

Sectio Cadaveris. (Commencing with the head, from the scalp to the surface of the brain, any appearances at the site of the wound, if one exist, and throughout the brain, either continued from above downwards, or from the base, according to circumstances, should be observed—especially deviations from healthy structure—and carefully recorded at the moment, not made up from recollection at a subsequent period; otherwise, like miscalled sketches from nature, done from memory, they may look very perfect, but are worse than useless—they are mischievous, and likely to lead to false deductions.

The chief points for observation in such a post-mortem examination are the following:—

The state of the scalp and skull, internally and externally; then of the membranes—any change from their normal appearances, injection or change of colour in dura and pia mater, opacity in arachnoid, effusion of fluid, serous, purulent, or sanious, between them.

The texture, colour, and consistence of the medullary and cortical parts of cerebrum and cerebellum, any injection or marks of inflammation, softening and disorganization, and if so, as far as possible, the degree and boundaries should be defined.

The state of the ventricles, particularly as to fluid, quantity, and character; also at the base. The tracts from whence the cerebral nerves proceed, or into which they enter, should be examined, and their examination specified. Blanks are always negatives of a very doubtful character. State of the veins and venous system generally.

The head thus scrutinized, the thoracic, abdominal, and pelvic viscera should be successively examined, and their state recorded, and any deviations from health accurately and carefully described.)

By such means alone can the study of the injuries of the head be properly conducted, and by observations thus pointedly directed alone can their pathology be more accurately known, their diagnosis improved, and redeemed from the vague and uncertain state in which it has hitherto been, or the principles of the most successful treatment fixed on a sure basis.

I shall now endeavour to deduce from the present state of our knowledge of the physiology and pathology of the brain and nervous system, with such facts and observations as I myself have gleaned, certain general laws; and, especially from these facts and observations, to trace the links connecting structures and functions, diseases or injuries, and their symptoms, and to determine how far these admit of beneficial and practical application in the more severe and complicated forms of injuries of the head.

The difficulties of such a labour are great, and peculiar to the organ in question. The nervous system is the last link in animal nature, uniting us to other and higher forms. Strictly material and animal, on the one hand, both by its dependence on blood for nutrient matter, and by its important functions regulating the whole animal economy—distinctly immaterial (as we understand matter), and linked to a higher and more subtile form by its powers of thought and creation—by its connection with the influences of a world beyond it.

There can be little doubt that it is from the blood oxygenated that the brain as an apparatus secretes its vital and *quasi* electrical properties. We find increased circulation increases the energy, or amount of nervous power; the want of circulation, or carbonated blood, prevents its generation. This leads to a strictly practical conclusion. If blood be the nutrient matter of vital or nervous energy, then must the quality and quantity of that fluid exercise a most important influence. Any injury of the brain implicating, directly or indirectly, that portion of the nervous system on which respiration depends, and impeding that action, must necessarily diminish oxygenation, and tend to produce the comatose state—to gorge the lungs; and thus, by a mutual reaction on each other, the nervous energy is diminished, on which the due performance of respiration depends, and the oxygenation of blood is less and less perfectly performed, on which the vitality of the brain and nervous power rests.

Hence, in all such cases, the necessity of promptly relieving lungs and brain of blood. It has been too frequently inculcated, that in coma from concussion you should wait for reaction. To wait for reaction in many such cases is to consign the patient to certain death, for a free reaction becomes each moment more impossible.

That there is a strictly reactive power between the blood and nervous system cannot be disputed. Let us not forget, however, that the latter draws some of its most powerful stimuli from other sources than the blood. The senses in communication with the external world, and thoughts which link us with another creation and higher and more subtile forms, carry the nervous system and its great centre, the brain, in a manner different from all other organs and parts, out of the mere boundaries of animal matter, or the human body. It has a double and intimate connection with what to us seems an immaterial world,

and its hidden influences—with the external world and its grosser impressions and impulses—with the animal frame, of which it is itself the highest form and most important part, strictly fettered to it by the necessity in which it exists for nutriment from the blood; while it is not less certainly acted upon, invigorated, diseased, or destroyed, by other and far more subtile influences and agents, some of which corrode like a slow poison, gradually diminishing its life and energies—while others sweep through the nervous centres with the blighting power and rapidity of lightning.

From these considerations naturally arises the question, what are the nature of the impressions of which the brain is susceptible? and in the endeavour to define its nature and injuries none more frequently recurs than this: — Is the fibre of the brain gifted with, or is it susceptible of, irritability? If so, may this be excited by stimulus, both mental and physical — by passion or a blow equally?

If the fibre which forms the substance of the brain, considered as a material organ, is susceptible of irritability, the question naturally suggests itself—why may not the stimulus of an injury, of thought, or of passion, each and all produce a disorganizing or decomposing action, which shall give softening and other effects as a result—not of inflammation, but of an action, *sui generis?*

Irritability is not inflammation; but it is action of a particular kind, and it may be in excess. Excessive action in all structures leads, first, to exaltation; secondly, to diminution or depression of power. Its ultimate result is weakness, disorganization, and destruction. Excessive actions all over the body meet in the death of the part. Thus, ramollissement, or softening—one of the most common effects of diseased action observed in the brain—may be accounted for, when, as is often the case, no trace of inflammation, of injury, or other disease, can be discovered. It forms, I think, an original type, and so I have classed it.

These remarks, although they all tend to some practical end or inference, carry us, however, too far into one of the widest and most interesting fields of pathological inquiry; but, as I have shown you, one too complicated in character to be entered into with advantage in the very limited space of a lecture. The best mode of investigating the changes of structure, in connection with the diagnostic signs of the diseases and injuries to which the brain and spinal cord are liable, is a subject better calculated for a course of lectures, which, assuredly, would be inferior in interest to none within the province of medicine or surgery.

The enunciation of principles of direct application to the nature and treatment of disease, which principles are, in truth, numerous conclusions compressed into the most concentrated form, together with a few of the more obvious facts on which they are founded, is generally all that can be attempted with advantage in lectures, particularly on such a subject as this.

We will commence our consideration of the injuries of the head by *Concussion*, one of the most frequent attendants on every kind of injury to which the head is exposed, and which I have defined as the first great elementary form. But before an attempt is made to describe the particular effects, and establish the true diagnostic signs, let us inquire briefly what are the great classes of effects, generally, which result from injuries to the brain. What is the brain?

This organ, as it lies within its soft envelopes, and its bony case—the skull, you know to be composed of parts, having various offices and functions, more or less accurately known. The spinal column is formed of the motory and sensatory tracts, and, between the two, of the respiratory, and is the axis or centre of the excito-motory system. The anterior of each lateral division is for motion, and proceeds in the brain from the corpus striatum. The posterior is for sensation, and forms the thalamus nervi optici. The respiratory or middle tract, being independent of the brain, ends in the medulla oblongata.

The thalamus, in which terminates the posterior sensatory column of the spinal cord, forms a nucleus, round which the corpus striatum, from whence proceeds the motory anterior tract, bends; and when their layers expand in rays beyond these modulated bodies, to form the great fan into the hemispheres of the cerebrum, these rays mingle together, or interlace rather. Sir Charles Bell has happily explained this, by a familiar illustration. He says, if the wrists are placed together parallel, and closing one

hand, it is is embraced by the other, the two portions of one crus are represented; thus the closed fist is the thalamus, and the overlapping hand is the corpus striatum. If, now, I extend the fingers, and interlace their points, the final distribution of the portions of the nervous matter which are devoted to sensation and volition, are represented. From the outer side of the ganglion the medullary fibres issue forth, spreading in a star or fan-like mode, until they meet the cineritious neurine or matter of the hemispherical ganglia, where their course is terminated; the cortical matter of the convolutions on the surface completing the contour of the brain. The medullary fibres throughout all present their extremities to the cineritious substance. These motory and sensatory tracts, to their ultimate expansion and contact with the cineritious matter of the convolutions, are held in constant inter-communication by commissures; and not only every part of each hemisphere is thus intimately connected, but each, with the cerebellum—a kind of second and somewhat similar brain, composed alike of cortical and medullary matter—derived from the same sources; and so complete and perfect is the communication, that no one part is so isolated that its injury may not in some degree implicate the most remote: there are six transverse, two longitudinal, and one oblique commissures; all so many media of communication between each and every part of cerebrum and cerebellum, and the medullary and cortical structure of both; thus blending the whole contents of the skull into one organ, every fibre of which communicates with, and responds more or less directly to, the other.

This glance at the relative position of the ganglia, the commissures connecting them, and their relation to the ganglia and columns of the spinal cord, must lead you to the conclusion that the distinct office, the power and the function of each individual part, even were they far more accurately known than can be asserted at present, where all are provided with such complete provisions for intercommunication and mutual dependence, could never enable us to decide that thus far and no farther had injury extended, and such a point must be its exact site. Mischief in one may create disturbance in another, or in all. How little, indeed, we can depend upon distinct indications pointing to the site of injury within the brain, I had a remarkable case under my care in 1834. An aide-de-camp of Marshal Saldanha was struck in the forehead by a musket-shot; the ball was divided as it passed through the skull, and a shaving passed along one hemisphere, abrading the corpus striatum of one side, and lodging upon it, producing considerable disorganization. He lived from ten to fourteen days, retaining consciousness, and without any impaired motion of either side. Yet the corpus striatum is one of the parts of the brain, of the functions of which we speak the most confidently.

The most, therefore, I have been led to hope as capable of attainment, after repeated and carefully compared observations in many cases, is to define the *kind of injury*, its *degree* to some extent, and particularly the violence or intensity of the action ensuing in the structure of the brain, and consequently the probable result, and the nature of the treatment best calculated to avert death or permanent injury to functions. But this is much more than has been hitherto attained.

The effects which ensue from injuries of the head are of several kinds, as well as degrees, and require classification before they can afford unerring indications. This I have in a great measure already shewn, when describing the best mode of taking notes: they refer to the three systems:—

1. The *cerebral*, extending also down the spine, directly influencing *motion* and *sensation*, furnishing the particular senses—the seat of judgment and perception—the source of all *voluntary motion*.

2. The *spinal* or *excito-motory*.—Its axis is the medulla oblongata and spine, intimately connected with the involuntary motions of the viscera, with the muscles guarding the orifices of the body.

3. The *ganglionic*,—the sympathetic. The secretory and nutritive system, contributing largely to bind the other two together, and both to it, by interlacement of sensitive, motory, and secretory filaments, uniting to a certain extent the functions of both brain and spine.

The whole of these actions are often and variously combined; and occasionally, to arrive at a true diagnosis of cerebral injury, it is essential that they should be distinguished from each other; often acting in a manner singularly in-

dependent of each other, yet, undoubtedly, the integrity of all is essential to the continued well being of any one. The cerebral functions, however distinct, are necessary to the continuance of either the ganglionic or excito-motory system. An animal from which all cerebral influence is cut off by division of the spine near the occiput, will gradully die; the powers of the sympathetic and excito-motory become exhausted, and cease. I have never seen the true spinal functions deranged, or the powers of that system impaired, in injuries of the head, without impaired cerebral functions.

Having thus pointed out the intimate connexion between the different nervous systems, I may observe that the first may be impaired, almost annihilated, without any very serious disturbance, for a considerable period, of the second; of which the following case of concussion is a remarkable instance.

A patient was brought to me in a state of insensibility, after fighting some twenty rounds with one of his comrades. The pulse was much slower than usual —from 50 to 60; pupils a little dilated; breathing somewhat stertorous.

In the course of a few days he partially recovered so far as to eat and drink whatever was carried to his lips, but without moving, or seeming to be aware of the calls of nature. When the evacuation of the contents of the bowels and bladder took place, he seemed perfectly heedless—indeed, unconscious; he paid not the slightest attention, nor seemed to hear any question, and moved no muscle when pinched.

About the middle of the second week a second stage came on: he was able to move; he recovered in some degree sensation and motion; answered "Yes" to every question, aware, apparently, that he was questioned, but altogether unconscious and incapable of understanding the purport; felt hungry, which, however, was only evinced by his seizing any food that came in his way.

In this state, with no other evidence of disease, he remained for some weeks, his consciousness of what was passing around very slowly improving; a slight stutter had supervened in his speech; and his memory was exceedingly impaired.

I repeat the case from recollection, the notes having been mislaid; but I remember all the circumstances distinctly, and they are essentially correct, as I have stated them.

Another remarkable example of destruction of one cerebral function, without detriment to any other—more common than the one I have described, yet still worthy of note—I remember seeing in a lunatic asylum at Newcastle. A young farmer, a robust and athletic man, was thrown when riding, the consequence of which was an aberration of intellect, with a sluggish and impaired consciousness. Thus we see here the effects confined to the functions of animal life, and to only one, and that the highest form of it—the intellect.

Generally speaking, in injuries of the head, when the excito-motory or ganglionic system is affected, their impaired function is dependent upon the degree and site of injury in the brain; and therefore do they form such fatal signs. Although the cerebrum may be so injured as to produce death in a few days, and yet not affect either of the two systems mentioned, or not until the last hours of exhaustion of all nervous power, yet the degree or kind of injury capable of affecting through the cerebrum the other systems, is not the less of a fatal, although, as I shall hereafter shew, of a different character.

An injury of the head which affects the functions of the cerebral system only, *cæteris paribus*, is of a less dangerous and fatal character than one which involves the others, although, by destroying all cerebral functions, death may ultimately result from the first form; but death comes then as *the mere result of exhausted cerebral power* necessary in man to the continued action of all other systems.

Hence you understand, *that when the injury is in the brain*—and through it the other nervous systems are affected—the cerebral mischief is great, the functions of the brain are always seriously disturbed: intellect, consciousness, sensation, and voluntary motion, either deeply impaired, or abolished for a time entirely. I have witnessed no exception to this.

These are some of the leading features of the general effects: we may now proceed to the nature and treatment of particular injuries.

ON THE

INDUCTION OF PREMATURE LABOUR.

To the Editor of the Medical Gazette.

SIR,

IN the last number of the GAZETTE (June 1st) you have inserted a letter from Dr. Paterson, of Glasgow, on the Induction of Premature Labour; and I take the liberty of noticing it, among other reasons, because it contains the following sentence:—"The mode I adopted for accomplishing this purpose, so far as I can ascertain, differed from that of any preceding obstetrician, inasmuch as it was effected by the administration of the secale cornutum, to the exclusion of every other means."

I am happy to corroborate Dr. Paterson's statement in regard to the power of the ergot for this particular object. It is not, indeed, quite new to the profession; for some years ago I was induced to try its effect in bringing on labour prematurely; and in my lecture on that subject (one of the series published in your periodical) I have detailed at length six cases, selected from a considerable number, in which the uterus was excited to action, *ab initio*, by the agency of this specific drug. Since that publication I have received communications from many professional friends, notifying its successful exhibition for the same end. I would refer any of your readers, who may be curious on this point, to the GAZETTE for June 28th, 1834. They will there find it recorded, as my opinion, that the effects produced were as much attributable to the medicine employed as purging would be to jalap, or vomiting to ipecacuanha.

The intention I had in view in substituting the secale for the artificial puncture of the membranes, was twofold; partly to diminish the sufferings of the mother, by preserving the membranes whole, until the labour was nearly completed, but principally to preserve the child. For it is reasonable to suppose that, when the liquor amnii has drained away before the commencement of efficient pains, the pressure exerted by the contracting uterus upon the fœtal body, or the placenta, or more probably on the funis umbilicalis, would often, by impeding the circulation, destroy the life of the infant before its expulsion; and I considered myself borne out in this reasoning by the result of Dr. Hamilton's practice in Edinburgh. When I had the advantage of attending his instructions he used to recommend that the membranes should not be punctured, but separated by the finger from the mouth and neck of the womb to the extent of an inch all round; and he stated, that by acting in this way he had saved 24 children out of 28 successive cases. When I contrasted this very favourable result with my own cases, in which labour was induced by puncturing the membranes, more than one-third of the children being born still, I thought myself bound to adopt the plan so strongly advocated by Dr. Hamilton. I followed it implicitly on five or six occasions; but being disappointed in my expectations, I determined to give a trial to the ergot; and the success that followed fully justified me in the experiment, as far as the mothers were concerned; for in very few instances was the medicine exhibited without effect. I was, however, in time, most distressed to find that, under my hands, in comparison to the number of cases, more children were still-born after the exhibition of the medicine than when the membranes had been punctured; and though formerly most unwilling to concede it, I can now no longer withhold my assent to the doctrine that this drug, when taken in large quantity, exerts a poisonous influence on the child's body through the mother's system. I have been strengthened in this conviction by the fact, that in four instances where the labour was induced by the ergot, under my own superintendence, the children died in convulsions within a few hours after their birth. Now, sir, when we take into consideration the very few infants who perish from convulsive attacks speedily after birth in this climate—when we consider, also, that one of the first symptoms of the disease known by the name of *ergotisme* (in those countries where it is prevalent), is a convulsive seizure—I think we may fairly refer these deaths to the medicine; and if so, it must possess a deleterious property, capable of being transferred to the infant within the mother's uterus,

although she herself may escape uninjured.

I have been at the pains of looking over with attention the notes of all the cases in which I have induced premature labour since I commenced practice; and I subjoin the following summary, that your readers may have before them the means of appreciating the value of the ergot in promoting that end, deduced from a considerable number of trials.

I find that the cases in which it has been thought necessary to have recourse to this expedient, from the patient's possessing too narrow a pelvis to admit a mature fœtus to pass alive, amount to 62: of these—

In 36 cases the membranes were punctured.
21 children were born alive.
16 ——————— still.

Of those which were born still—

1 was a twin case, both children still.
3 were breech or footling cases.
2 were transverse presentations, requiring turning.

Of those born alive—

1 was a breech case; the child never breathed freely, and soon died.
1 was a footling case.

Four patients took the ergot with little or no effect:—

1 took 10 drachms infused.
1 —— 20 drachms infused.
1 —— 24 drachms infused. The child died in 48 hours, not in convulsions.
1 —— 30 drachms infused.

The other 19 children lived for a considerable period; many are alive at this time to my knowledge.

In 26 cases the ergot induced labour without any other means being used.

Of these—

12 children were born alive.
14 „ „ still.

Of those born alive—

1 was a shoulder presentation; the child was turned, and the respiratory function was never perfectly instituted.
3 died within the hour—not in convulsions.
4 died of convulsions.

Of these—

1 died in 6 hours.
1 „ 10 „
1 „ 15 „
1 about 36 „

So that, of the 12 born alive, 4 only survived for any length of time.

Of the 14 born still—

1 was a breech presentation.
In 2 craniotomy was performed, the women being farther advanced than they had calculated on, and the children being too large to pass. One of these children was still before the operation; the other was alive at the time.

The quantity each of these patients took varied from 2 to 12 drachms, and they all had it given to them in the same form. Half a drachm of the powdered grain was infused for half an hour in an ounce and half of boiling water; the *strained* infusion was exhibited, and the dose repeated every four hours.

It is right I should add, that in no one case did the women suffer any bad consequences from the medicine, nor was any perceptible effect produced on the general system, except nausea and vomiting in a small number.

From the foregoing analysis, I think we may conclude that, although the ergot may bring on labour without having recourse to any operation, yet that it does not present us a more likely, nor, indeed, so probable a means of saving the infant as the older method of puncturing the membrane, though I hoped such would be the case when the lecture I have referred to was given to the public. It would seem, also, that however much the woman may have taken, unless it exerted a decided influence over the uterus, the child suffers no detriment.

It may, perhaps, be advantageous, when it is necessary to anticipate the proper period of parturition, to administer three or four doses of this drug before the liquor amnii is let off, in the hope that it may dispose the uterus to act, and tend to soften and prepare the passages for the child's exit; it being presumed that so small a quantity would do no injury to the infant.

I cannot help expressing my fears that the ergot, from its powers being now so well known, is not unfrequently had recourse to, in ordinary cases of labour, both unnecessarily and injuriously; and

I feel it my duty to join Dr. Paterson in impressing a strong caution on our younger brethren, with regard to its indiscriminate employment. I have myself witnessed very sad effects follow its exhibition, and I think reasonably attributable to its agency.

There is another part of Dr. Paterson's letter that calls for remark. He thinks "this medicine can by no means be regarded as an abortive;" and he quotes some distingushed names in confirmation of that view; but that "in proportion as the period of natural parturition draws near, *cæteris paribus*, so will the action of the secale be manifested on the system." "For," he states in a sentence closely following the last quoted, "it is rational to believe, that as the full period of gestation draws near, the natural predisposition of the uterus to expel its contents will be greater;" "though he is not as yet prepared to draw a line of demarcation, as to the exact period when it may be said to act, as it were, specifically on the gravid uterus."

I hold a different opinion. I cannot grant that the uterus has a greater disposition to expel its contents prematurely in the latter than in the earlier stages of gestation; because, in this city at least, abortions before quickening has taken place are much more frequent than premature labours at the seventh or eighth months. Neither can I refuse credence to the notion that this medicine has a specific influence over the uterus even at an early period of pregnancy; because I have seen its stimulating effects on that organ in very numerous cases of dangerous hæmorrhage in the early months, when it was desirable to procure the complete evacuation of the uterus, and where no manual or instrumental means could be put in practice. Besides, it is neither philosophical, nor in accordance with our knowledge of the action of other drugs, to deny its influence over the gravid womb at one period of pregnancy, while we concede to it such an almost incredible power at another. But this is a subject which should be lightly touched upon in a publication such as this, for reasons that I need not more deeply enter into.—I am, sir,

Your obedient servant,

FRANCIS H. RAMSBOTHAM.

14, New Broad Street,
June 8, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Researches on the Development, Structure, and Diseases of the Teeth. By ALEXANDER NASMYTH, F.L.S., F.G.S. Member of the Royal College of Surgeons, London; Fellow of the Royal Medical and Chirurgical Society.—Churchill.

CIRCUMSTANCES and events apparently fortuitous seem to exercise an influence over the destinies of mental energy as well as of every thing else; and thus the introduction of improved microscopes in our own more immediate æra, appears likely to revolutionize the anatomy and physiology of almost every tissue which makes up the animal frame.

In some, indeed, it has opened up entirely new fields of investigation; and of these a prominent one is the subject of the work before us—namely, the minute structure of the teeth. The beautiful displays of arrangement, and peculiar adaptations of these organs, to the circumstances of different animals, which have been brought to light, form one of the most striking proofs of the utility of this instrument in the province of minute anatomy with which we are acquainted. The author tells us in the preface, that the interest excited by the views of Professor Retzius, of Stockholm, in 1837, induced him to resume a course of investigations on all points connected with the structure of the teeth. It is, however, not the structure only of these organs which is considered by Mr. Nasmyth, but his work is, in fact, intended to form an entirely new system of odontology. The particular views now alluded to not only demonstrate that such a work was required, but the unsettled state of every point connected with the subject seems to demand it.

The general arrangement of the subject seems to betoken novelty in all its parts, and it admits of great amplification. The portion now before us consists chiefly of a digest of the labours of others up to the present day: it is illustrated by a set of beautifully executed engravings, and so contrived as to infuse a great degree of interest into the

discussion. The labours of Purkinje, Müller, Raschkow, Retzius, and others, who have of late done so much in this branch of science, are described, and many curious and interesting facts adduced. The labours of the physiologists above named have tended to prove the existence of a system of tubes, which ramify and unite with one another in the body of the tooth, and in which tubes the fluids of the teeth percolate. The researches of these anatomists are given fully, and with very ample details; but the reader who wishes to follow up the subject must consult the work itself, as our limits will not admit of our entering upon it fully: at the same time, we quite agree with Mr. Nasmyth in his concluding observations on the subject:—

"The labours of Retzius and his contemporaries must be considered as a most splendid contribution to minute anatomy; but I still think that the evidence in favour of the existence of a *system of ramifying tubes* in dental bone or ivory, requires much further examination and corroboration, before we can be justified in adopting a theory tending to overthrow many received opinions, results of ordinary experience. The difficulty in arriving at just views of this subject is partly owing, I think, to the circumstance that writers have comprehended very different structures under the same term. All the diversified textures entering into the composition of the *bodies* of different teeth have been described as dental bone or ivory; and it is unfortunate that the advocates of a tubular system have not been much more precise than their predecessors in defining the specific nature of the various dental structures, in which they state that they have traced hollow fibres.

"Like all newly propounded doctrines, the theory of a tubular system, as laid down in the preceding pages, will be found to present some internal contradictions. 'It can *scarcely be doubted*,' says Retzius, 'that the minute tubes in dental bone, in the cortical substance, in common bone, and in the horns of deer, as well as the cells with which they are in connexion, are a peculiar kind of vessels containing a nourishing and supporting fluid.' In another part of his work, however, he says, 'with respect to the contents of the canals, I, as well as Professor Müller, have found that they consist of an inorganic or earthy substance, which appears white when viewed on a dark ground, but which disappears when the preparation is placed in diluted muriatic acid. When the light falls into these canals, this matter is seen to be composed apparently of infinitely fine particles, adhering together in lumps. The greater or less number and distinctness of these lumps seem to depend on the degree in which the preparation has been penetrated by water, oil, or turpentine.' 'That the small osseous tubes and cells,' he afterwards adds, 'contain osseous earth, is seen from their whiteness.' And one of his followers states, that 'these tubes are chiefly rendered visible by means of their contents.' How a tube can be filled with osseous matter, and at the same time allow of the circulation of a 'nourishing and supporting fluid,' I cannot understand. It must not be forgotten, too, that Retzius allows 'that, in the tooth, no renovation of the material appears to take place.'

"Nor is it with respect to the more direct inductions drawn from the tubular system alone, that I must avow myself in some respects at issue with the ingenious and industrious Professor of Stockholm. 'When the milk-teeth,' he says, 'are examined just before they are about to be shed, they are found to present an appearance as if, from pressure of their permanent successors, they had wasted or been absorbed at their roots. The crown of the advancing tooth appears to have pressed itself into the extremity of the deciduous one. I have carefully examined how this appearance is produced, and have come to the *decided conviction* that neither *tabescence*, *absorption*, nor *erosion*, has any thing to do with it.' This is a statement which may be so easily refuted by the simplest observation, that I need not here waste the time of the reader by entering into a formal demonstration of its fallacy.

"With a candour which cannot be too highly praised, Retzius allows that he is ignorant of the specific functions of the tubes in the dental bone of the adult tooth. His ideas on this subject, as might be expected at this early stage of the inquiry, are far from definite. 'In common bone, *probably*,' says he, 'the peculiar vessels in question take a part in the continual, or apparently con-

tinual, exchange of substance: this cannot in the same degree be the case in dental bone, inasmuch as in this no such exchange appears to take place. What end, then, is served by this beautiful organization of dental bone? We have many examples that nature organizes structures which have a close affinity to each other according to one and the same plan, and hence we have, in different parts or organisms, formations which in some are of the greatest importance, whilst in others they are of much less functional significance, or of *none whatever*. If we hence assume, what is highly *probable*, that in bone the peculiar vessels in question give passage to fluids during the entire life of the animal (or a great part of it), which fluids contain the solid as well as the liquid materials of the osseous substance; it does not necessarily follow that the same process must be carried on in the teeth during the whole of life. On the contrary, I am inclined to believe that these vessels in dental bone are at their height during the first period of the formation of the tooth, and exercise then their more perfect action. At the same time, the existence of a continual vital process in the tooth, as well as in the crystalline lens, cannot be denied, which, however, appears to be carried on without any constant exchange of solid matter, and must hence consist in a renovating circulation.' I have quoted this sentence again, because it characterises, more justly than any objections I could make, the imperfect state of the inquiry.

"The theory of the tubular system, assumed to be true, has been with considerable ingenuity employed by a very eminent naturalist, to explain that which takes place when teeth are stopped: it has been said that the mouths of the vessels which have been cut across in this operation deposit a layer of calcareous matter under the *stopping;* but I believe that no facts bearing out this assertion have yet been observed; and I cannot but think that the general character of the tooth, and the nature of the functions which it has to perform, are altogether incompatible with the existence of a system of open-mouthed vessels ready to pour out fluid of any kind to a greater or less extent. It is well known that even the least increment, or change of the material of the tooth under the stopping, renders that operation quite ineffectual, either by displacing the stopping or by admitting the fluids of the mouth, and thus promoting decomposition beneath it."

We shall look with interest for the development of the views of our author on this subject, as we are led to infer, from the care which he seems to have bestowed upon it, that something precise and valuable may be expected.

Minute practical knowledge is obviously requisite for conducting an inquiry such as this into minute structure. We do not know who the naturalist is to whom allusion is made in the last paragraph of the above quotation, but it demonstrates that no advantage can be expected from a distribution of labour so unlikely to be followed by practical results; the merest tyro in the management of the organs in question, knows the absurdity of the opinion which is therein stated.

It is proper to observe, that the present portion of the work does not enter fully into the details of the researches and views of the author himself, but enough is done to shew that he has paid much attention to the subject, and that he has arrived at various new results. The system which has obtained the appellation of tubular, was discovered 160 years ago; nothing positively new has been noticed. The *rediscovery* of these appearances by our German contemporaries may claim something of novelty, and has much interest attached to it. In the work before us, however, there are several discoveries which we regard as original—certainly we are not aware of their having been anticipated by any former observer. The first is described thus:—

"There is one opinion which has been uniformly maintained by all writers on this subject—viz. that when the teeth of man, or other analogous simple teeth, are extruded, the enamel is divested of all external covering, and exposed immediately to the atmosphere, denuded of both the envelopes of capsule and mucous membrane which it possessed during what has been called the saccular stage; and this denudation has always been supposed to be effected by the disruption of these coverings. My own views, however, on this point, which are contained in a paper read some time ago before the Medical and Chirurgical Society, are different from those generally received; and I have no doubt that I shall be able to prove that it is a

process of absorption, and not of disruption, by means of which the tooth is emancipated, and that when perfected and extruded it is still invested with a capsular covering. This covering, as it is seen to be continuous with the crusta petrosa, I consider it to be analogous to it, as the latter has been found to invest the whole tooth in an enlarged state in many animals, and in a particularly interesting form in the orycteropus, bradypus, walrus, &c. In my collection are numerous preparations of this covering on the teeth of man, on the incisor of the calf, and on the simple teeth of many other animals. I have detected it, indeed, on the teeth of so many animals, that I presume it will be found universal. By means of acid, I have removed it in the shape of a membrane from the surface of these teeth; and in delicate dry sections prepared in a peculiar manner, I have been enabled, with the microscope, to examine its structure. In man it forms a thin layer, of a darker colour than the enamel; it is continuous with the crusta petrosa which covers the fang, but differs from it in not always containing corpuscules. On the incisor of the calf this covering is very distinct, and generally presents corpuscules. The extreme difficulty which is experienced in getting a fine section of a tooth without this membrane being removed in the process of reduction, is, probably, the cause of its having been overlooked by previous observers."

An entirely new and interesting point in the consideration of these organs is noticed at p. 164, in these words:—

"Retzius states that only three substances enter into the composition of the teeth in their various forms, viz. ivory, enamel, and cement; but I think that a fourth ought to be added to this list, viz. a structure having the appearance of ossified pulp, in which the vessels seem to retain their original position, but are found in a state of atrophy, intermingled occasionally with irregularly-formed ivory. This substance may be considered as constant as any of the other three: it constitutes almost exclusively the simplest teeth, as those of the ornithorynchus, anarrhichas lupus, &c.; and it is occasionally found to enter into the composition of the teeth of almost every animal, either normally, as in the walrus, bradypus, orycteropus, ptychodus polygyrus, &c., or abnormally, as in some human teeth."

The establishment of the first of these curious and original facts forms a beautiful display of the uniformity of nature throughout the range of the animal kingdom.

The following passage from the preface is very important, and opens up an entirely new field of inquiry:—

"The importance of the study of odontology in a zoological and geological point of view, has induced me to form as complete a collection as possible of microscopic preparations of the teeth of the various classes, both living and extinct, of the animal kingdom. From these I intend, in the course of the present work, when treating of the structure of the teeth, to make a selection calculated to serve as an index of the type of any animal. This part of the work I think will prove of much use to the geologist, in enabling him to state to what class of animal any tooth, or fragment of tooth, belongs."

The effects of time in destroying the remains of organic beings is now divested of its hopeless destructiveness in the eyes of the geologist, who, inspired by a ray of the bright genius of Cuvier, attempts to unfold the natural history of past ages. It is a very curious and interesting fact, that amid the apparent confusion and chaos of fragments, let but one minute portion of a tooth be found, and submitted to an educated eye through the microscope, and the animated inhabitants of a former age at once start up around him, clothed with all the bodily investments of their organization. In order to demonstrate the soil they trod upon, or the medium in which they moved, the student has only to apply a little sagacity and attention to the demonstrations which Cuvier has afforded.

"In the sequel to the present work," (says our author) "it will be shewn that, besides the general conformation and external appearance of the teeth, another distinctive peculiarity by which the Almighty has characterised the different members of the animal kingdom, exists in their beautiful internal, minute, and hitherto hidden organisation, which further demonstrates in a most striking manner the harmony of all created existence."

Here we terminate our notice of Mr. Nasmyth's interesting and important volume. It forms a most striking contrast to the ephemeral and abortive pro-

ductions with which the press teems—professedly upon the same subject, but having no resemblance except in name; and we therefore strongly recommend it to the attention of all who are interested in the scientific investigations connected with our profession.

MEDICAL GAZETTE.

Saturday, June 15, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL CONGRESS AT DUBLIN.

A MEETING, designated by our contemporary the Dublin Medical Press as the Great Meeting of the Physicians and Surgeons of Ireland, was held on the 29th of May, at the College of Surgeons, in Dublin. The mere fact of such an assembly, drawn from every corner of the island, coming together to consider the grievances of the profession, is sufficiently interesting; it may be looked upon as an additional instance of the characteristic instinct of our age, which prompts every class to give utterance to its discontent, and to endeavour to probe to the bottom the deep uneasiness which consumes it. Many of the assembled practitioners are names well known to fame; and though we are less acquainted with others, from the circumstance of their not residing in the capital, there is no doubt that among them are to be found many ornaments of the profession, representing most satisfactorily the opinions of their provincial brethren. Corresponding associations seem already to be formed in different parts of Ireland, which will probably soon extend the power of the parent society into every county, and make it strong, if not despotic. Hence we should ill discharge our functions if we gave no account of the proceedings of the 29th ult. But as it has always been our boast to be not only faithful chroniclers, but impartial commentators, we shall criticize as well as report, not hesitating to expose a fallacy, however high the name by which it is sanctioned.

In consequence of the number of practitioners who had assembled from all parts of the country, it was found necessary to adjourn from the great hall of the College to the theatre. Mr. Carmichael was called to the chair by acclamation, and began the business of the meeting with a speech. He attributed the concourse of practitioners around him, delegated to represent the sentiments of their brethren in all parts of Ireland, to the obvious necessity of medical reform. The necessity is clear, from the constant sinking of the profession in public estimation; and this sinking may be measured by "a sad falling off in the rate of remuneration during the last few years."

What this rate may be, does not appear. Mr. Carmichael himself has "become accustomed to the usual *honorarium*," or, in plain English, gets a guinea a visit, "a custom which it is not likely I shall now forego;" so that he falsifies Shakspeare's proverb, and does *not* jest at scars, though he never felt a wound. One slight scratch, indeed, he has felt; he says, "we are now seldom rewarded with the double honorarium in consultation, even when held upon personages of rank and fortune." This kind of luxurious complaint, however, is enough to make the mouth of a poor London doctor water, and lead him to think of the Sybarite in the story, who could not sleep all night because a rose-leaf was doubled under him. At the other end of the medical scale the fees are singularly low; so low, indeed, that Mr. Carmichael refuses to offend the ears of his audience by repeating what he has heard from undoubted authority on the subject. We should be glad to

know what is the precise sum too painful to be mentioned to ears medical. Is the fee five shillings, or three, or half-a-crown? Whatever it may be, we cannot conceal our suspicions that the Dublin minimum is higher than the London one; for although brilliant talent is recompensed in the metropolis of the world by prizes of the highest magnitude, this very splendour of reward attracts such shoals of competitors from all quarters, that there are few towns where moderate abilites are so unprofitable to their possessors; to use a commercial phrase, talent in London is quite a drug, and never looks up. The simile which James I. used when advising the gentry to leave town, "in London you are like ships in the sea, which shew like nothing, but in the country you are like ships in rivers which shew like great things," is exquisitely suited to rustic practitioners of fair ability who wish to plunge into the unfathomable ocean of the metropolis; though, of course, as the learned king would not have given this plain advice to the possessor of twenty thousand acres, so our extension of it is not applicable to the possessor of unrivalled talent. Hence it may be some consolation to our struggling brethren in Dublin to learn that the "ships in the sea" are worse off than they; and if their unmentionable fee should turn out to be half-a-crown, they may rest assured that many practitioners in London receive a guinea for an indefinite number of visits.

The same miserable comfort will apply to the Dispensary question, which Mr. Carmichael next touches on. In Ireland the medical officers get a very small salary, in England usually none at all.

Again, Mr. Carmichael complains, and with reason, of the pitiful remuneration doled out by successive governments, whether Whig or Tory, to the medical practitioners whom they employ; and contrasts it with the gentlemanly salaries given to barristers. Thus, when the cholera ravaged Ireland, the practitioners employed in the infected districts were paid only ten shillings a-day. This was afterwards somewhat increased, upon the urgent remonstrance of a member of the Board of Health; but in no instance, however distant the field of his exertions, did any one receive more than two pounds a-day, which included travelling expenses; while, at the same period, registering barristers were paid five guineas a-day, and travelling expenses besides.

Yet here, again, marked as is the preference shewn by the legislature to law—clearly as it treats the practitioners of physic like a stepmother, and reserves its affection for the barristers—our Irish fellow-labourers have the advantage over us. When the epidemic cholera raged in England, the salary of an ordinary practitioner was much less than ten shillings a day; and as for a daily revenue of two pounds, a cholera doctor would as soon have thought of getting a bishopric!

If the poet, therefore, be right, when he says,

"'' Solamen miseris socios habuisse doloris,"

it will be some comfort to our brethren in the green isle to learn that things are rather worse at the seat of government than with them, and that the opulence for which this country is so famous, seldom condescends to visit its medical practitioners. If we were asked why the profession should be better paid in the poorer country, though fearful of broaching a wrong solution of a difficult social problem, we should conjecture as follows:—In Ireland, the lines of demarcation between the different classes of society are far more strongly traced than here; and consequently the lower part of the middle ranks, who, in England, frequently bring up their

sons to the medical profession, will less frequently venture on so bold a step. Moreover, though Ireland is notorious for its "middle-men," yet persons of intermediate fortune are really far less numerous there than in this country; a fact which strikes every traveller who misses the neat dwellings which characterize an English landscape, and feels inclined to think that the gloomy descriptions of the "Deserted Village" have been realized, and that nothing is left but the castle and the cabin. Now if our solution be the true one, as there is every reason to believe, it will not only shew why the rate of medical remuneration is rather better in Ireland than in England, but why there is reason to fear that it will sink still further with the growing prosperity of the former country. The number of farmers, annuitants, and shopkeepers, enabled to give their sons a sort of medical education must be daily on the increase; the young aspirants must live, and have little capital to fall back upon; therefore, if they cannot get half-guinea fees, they must take half-crown ones, or others even more offensive to ears polite.

When crowds of hungry competitors are rushing against the mounds set up to exclude them, the dyke has little chance of withstanding the torrent; and in the present age, candidates are rarely disheartened by parchment difficulties. To say nothing of those facile academies which make correspondents happy by return of post, provided their letters inclose a suitable remittance, more respectable universities manufacture doctors by hundreds annually, to the ever increasing rarity of the double honorarium!

Still in Ireland the surplus population of our profession would not be so great, Mr. Carmichael thinks, if it were not that the apothecaries are beginning to practise physic — an innovation against which he sets his face most decidedly. So that it appears that across St. George's Channel medical affairs are somewhat in the state that they were here in Queen Anne's time. The progress of society has prodigiously augmented the number of persons who want advice and physic in the cheapest and readiest form. In vain did the physicians of that period attempt to stem the revolution; will the Irish physicians labour in vain likewise? They will, unless they have the wit to see that clerks and factors and petty traders *must* have cheap advice; good, if possible, but cheap at all events. If they will consent to see this, and will allow their junior colleagues to take fees too small to be even hinted at, they may yet smother the nascent practice of their rivals; but if they think this alternative intolerable, they must submit to the other one. *De malis minimum;* we leave them to choose between the two. We will continue our account of this important meeting in our next article.

ANÆSTHESIA IN THE DOMAIN OF THE FIFTH PAIR OF NERVES.

By Dr. Romberg.

Although affections of the fifth pair of nerves are common enough, yet cases of them have seldom been published; while descriptions of disorders of the facial nerve have been frequent since the appearance of Bell's works. This deficiency is the more to be lamented, as diseases of the fifth pair afford the opportunity of solving physiological difficulties, for which experiments on animals are insufficient. In this point of view, as well as in reference to diagnosis, the following case is worthy of attention:—

A widow, æt. 42, four years ago, fell backwards on the occiput, from a flight of stairs, while carrying a loaded basket. A year afterwards the catamenia ceased. From this time she suffered under attacks of spasmodic sneezing, which of late increased both in frequency and violence, so as to deprive her of sleep, and were excited by the slightest cause. Nothing irregular was to be found on examination of the nasal cavities; but the occurrence

of the accident made me suspect that there was something wrong within the cranium, by which the nasal filaments of the fifth pair were stimulated. I immediately examined the course of the first and second branch with reference to their sensibility, but found no variation; but the third branch was insensible throughout its whole course. I give the combined result of my experiments, which I often repeated during the last two years before my pupils, as well as in the presence of Professor Müller and my colleagues. The eyes of the patient were bandaged when the experiments were performed, which is necessary when examining the state of the sensibility, both to prevent the patient from deceiving one, and to avoid being misled by the impression which is produced on the patient by the sight of the instrument employed.

The left half of the lower lip, both on its outer and inner surface, and the left side of the chin, were insensible to the pricking of a sharp inoculation needle. In like manner the inside of the left ear and the auditory passage had lost all feeling, and showed no sensibility even when a burning taper was held within them.

The skin of the left temple near the hair, and the left half of the tongue laboured under the same loss of sensation. On the right side all these parts enjoyed their usual sensibility, and even on the left side of the face the other nerves of sensation were perfect, so that the limits of the third branch could be accurately marked out. When the skin of the temporal region was touched with the needle at a spot somewhat nearer the forehead, the patient instantly started back, for I had got into the course of the frontal nerve; and when the skin of the horizontal ramus of the lower jaw, near the chin, was pricked, smart pain was produced, because the upper subcutaneous twigs of the third cervical pair retained their power of conveying sensation. On the other hand, the left side of the tongue had lost its faculty of taste. Substances of all kinds, solid as well as fluid, were not tasted, while the faculty was perfect on the right side. Thus the patient remained quite tranquil while I strewed some powdered colocynth on the left side; but she made a face when it was put on the right, exclaiming "how bitter!" and endeavoured to get rid of the sensation by repeatedly spitting out the powder. It was the same with salt, sour, and other substances.

But though there was a partial disturbance of sensation, there was none of the power of motion on the left side. I could not detect any difference between the left and right side either in imitative, respiratory, or masticatory movements. The same held good with the articulatory and masticatory motion of the tongue; nor were the nutritive functions of the left half at all injured. The dimensions were the same on both sides as well as the colour and temperature. Blood flowed as quickly and copiously from little punctures on the left as on the right side; the moisture too, and coating of the tongue, were the same. From these points, I formed the following diagnosis:—

The limitation of the anæsthesia to the third branch of the portio major of the fifth nerve indicates an affection of this branch alone; and indeed indicates that it is compressed, because as long as I observed the patient, mere anæsthesia was present, without any painful sensations. The pressure must affect the nervous trunk already formed, the *ensemble* of the primitive fibres, because the loss of feeling extended over the whole course. That the compression was not seated in the Gasserian ganglion, where the elements of the third branch are united with those of the other two sensitive branches of the fifth, was shown as well by the existence of feeling within the sphere of the first and second branch, as from the absence of other characteristic symptoms. Nor could this pressure be supposed to take place after the exit of the nervous trunk from the foramen ovale of the sphenoid bone, because the motor fibres of the portio minor of the fifth pair are there united to its sensitive fibres in such a manner, that pressure must have operated on both, and produced paralysis—a supposition which is disproved by the masticatory movements being unimpaired on the left side of the face. I therefore supposed a compression of the third branch of the fifth pair in its course through the cranium, before the foramen ovale, probably caused by a swelling of the dura mater or the bone; and its extent could be but small, as the portio minor in its neighbourhood was not paralysed.

The patient died of dropsy, March 19th, 1838, when the following appearances were found in the cavity of the cranium.

The upper surface of the brain was covered with gelatinous exudations, white in patches, and opaque. On the lower surface of the posterior lobe of the left hemisphere, corresponding to the floor of the posterior horn of the lateral ventricle, a spot of almost circular shape was found, softened, but without any trace of vascular injection around it. The brain and medulla oblongata were otherwise healthy.

The third branch of the fifth pair on the left side, at the place where it enters the foramen ovale, was externally surrounded by a reddish, vascular web, which consisted partly of fibrils, and partly of

very small transparent vesicles. On closer examination it appeared to he an exudation, or a luxuriant growth of the neurilema; towards the cranial cavity it gradually passed into the substance of the dura mater, and at the other end of the nerve into the regular neurilema. The neurilema was thickened and reddened, as far as the nerve pursued its course in the sphenoid bone, and even a little further downwards as far as the spot where the normal otic ganglion had its place on the posterior surface of the nerve. As far as the neurilema was altered, so far the nerve also was swollen, of a yellowish colour, and perhaps rather harder than in the rest of its course. This alteration, however, was found only in the portion of the third branch which springs from the Gasserian ganglion. The motor root pursued its course unharmed on the inner surface, and vanished with the larger portion below the diseased spot. The nervous twigs belonging to the pterygoid and buccinator muscles, to the temples, tongue, and lower jaw, were perfectly normal, as well as the third branch of the fifth pair on the right side, and the glossopharyngeal nerve on both sides.

The preceding case is extremely opportune at the present time, when the controversy concerning the nerves of taste is so actively carried on. I do not think that I go too far in considering this case of decided importance, as it indubitably shows that the primitive fibrils, which run in the course of the lingual nerves, are capable of conducting the sensation of taste. I express myself thus intentionally, to avoid the common error of supposing the lingual nerve to be made up of homogeneous elements. That this is not the case, and that, on the contrary, both sensitive and gustatory fibrils are found in the course of the lingual nerve, appears from the foregoing case. Here, as well as in the organ of sense generally, far sounder proofs are derived from pathological facts than from experiments on animals; the latter having even been the cause of error, which escaped observation in the dispute as to the share of the glossopharyngeal or lingual nerve in the faculty of taste. The sensitive energies of the tongue were limited to feeling and taste, and another one was overlooked which is shown by the simplest experiment. Let the finger be passed over the point, edge, or middle of the tongue, and the sensation of common feeling alone is produced; but as soon as the papillæ vallatæ and the root of the tongue are approached, the feeling of *nausea* is excited, and a determinate reflex action—that of *retching*. It is these nervous prominences in which fibrils of the via glossopharyngea are distributed, which are also found in other places, such as the velum palati for example, the irritation of which also causes nausea and retching. In most of the experiments on animals (compare Panizza and Valentin, in the *Repert. für. Anat. u. Physiol.* 1837. vol. 2, Part 2, p. 220) mention is made of the feeling of nausea and attempts to vomit, the glossopharyngei remaining uninjured; only it seems to me that it is incorrectly ascribed to the influence of the taste. In animals the feeling of disgust and aversion is the guiding principle in eating, in other words the instinct, far more than the taste is. This coincides with the variety in the number, size, form, and situation of the papillæ vallatæ observed by Rudolph Wagner in different genera and species of the mammalia; although he holds the glossopharyngeus to be the nerve of taste; so that a clear parallel is made out between the instinct of nutrition in animals, and the form of the papillæ vallatæ. (*Neue Notizen aus dem Gebiete der Natur. und Heilk.* No. 75.) I do not hesitate, therefore, to consider the glossopharyngeus as the instinctive nerve of nutrition. This explains its constant occurrence in beasts, while in birds no lingual nerve has hitherto been found.

Besides the specific feeling of the sensitive fibrils of the glossopharyngeus, their reflex action when irritated, or *retching*, is also worthy of observation. It is interesting to remark how an irritation causes different reflex effects even in regions which border on each other. An irritation of the sensitive fibrils of the nervous vagus in the glottis is followed by coughing; irritation of the sensitive fibrils of the vagus in the œsophagus, by an attempt to swallow; irritation of the sensitive fibrils of the glossopharyngeus at the root of the tongue, and the velum palati, by retching; and how accurately limited is this specific sensibility and its reflex action may be seen from an example mentioned by Marshall Hall (Lectures on the Nervous System and its Diseases), where, in patients who tried to produce vomiting, and came too near the pharynx with a feather, an effort to swallow was produced, and the feather was drawn into the œsophagus. These reflex actions might be taken advantage of as reagents in examining the energy of sensitive nerves; and as I lately produced coughing in a horse by irritating the nervus vagus in its course along the neck, without touching the larynx, so I am convinced that irritation of the glossopharyngeus would produce retching, however far from the tongue it was applied. This motion also explains the law of neighbouring reflex actions, as far as the sensorial irritation being communicated to the spinal marrow excites into

action the motor elements of the glosso-pharyngeus, which come off in the vicinity of the sensitive fibrils.

The case above detailed, not only explains the powers of the lingual nerve, but affords a commentary on the laws of isolated communication and of combined sensations. The former law gave confidence to the diagnosis of the seat of the disease, while the other explains the appearance of the spasmodic sneezing. For this spasmodic sneezing is best explained by irradiation of the sensations, by a transference of the irritation from the sensitive fibrils in the third branch to the nasal filaments of the fifth nerve (without deciding whether in the Gasserian ganglion or in the central apparatus), and by a respiratory reflex movement. The combined sensation in the cerebral ends of the nasal filaments was so lively, and the tension so strong, that every cause produced sneezing, so that my experiments upon the sensibility of the face in this patient were frequently interrupted by it. This case is not only full of physiological interest, but it is of great pathological value as regards the affections of the fifth nerve, formerly so obscure.

For only a confused idea was formed of the cases of hyperæthesia (increased sensibility), as appears from the dissertations on Fothergill's Neuralgia Facialis; and paralysis of the fifth pair was a perfect *terra incognita*, until it was discovered by the genius of Bell. Since that time, valuable single cases have come to light which open a clearer view of these conditions. The paralysis may affect either the sensitive or the motor faculty of the fifth pair or both which may be ascertained by simple clinical experiment. With the needle in our hand we mark out the limits of the anæsthesia; and by giving the patient a small bit of bread to chew, we learn the inactivity of the masticatory muscles which are affected. Again, the paralysis may have either a central or a peripheric origin; but the latter must be understood more comprehensively than it generally is. The term "root of a nerve" has led persons astray in pathology, by making them consider the aggregate of nervous fibrils, which go off from the brain at particular spots, as origins or central ends of those nerves, and then refer their affections to the domain of the central apparatus, or brain. This is erroneous, however, since from the spot where the nerve leaves the brain, to the utmost limit of its course, it can be considered only as a peripheric nerve, and is subject to those laws of transmission which govern peripheric nerves. Hence the paralysis of the fifth pair is peripheric, whether its cause is seated in the surface of the face, or in the sphenoid bone, or in the Gasserian ganglion, or in the vicinity of the pons Varolii. A diagnosis may be made of this difference in the seat; for the more the anæsthesia is confined to single filaments, the more peripheric, if I may so express myself, is its origin. Thus, after the extraction of a grinder in the lower jaw, the anæsthesia was confined to half the lower lip; in other cases to the ala nasi, to the upper surface of the eye, and so on. When the loss of feeling is more extensive —when it affects not only the external surface of the face, but also its cavities—the investigation must be made anatomically; and if the whole course of a given branch is found to be without sensation, as was the case in my patient, then the filaments before they separate and spread, must be affected in their *ensemble*—in the entire branch, before it comes out from the cranium. Finally, if the anæsthesia affects the whole sensitive portion of the fifth pair, the cause lies in the Gasserian ganglion, or in the brain itself; and in such cases there is generally paralysis of the masticatory muscles from injury of the neighbouring motor portion. When the Gasserian ganglion is affected other symptoms appear, which are physiologically interesting—namely, disturbances of the vegetative functions in the parts affected by anæsthesia; the clearest being inflammation, suppuration, and ulceration of the eye, redness and hæmorrhage in the cavities of the nose and mouth, and puffiness of the gums. Such cases are mentioned by Serres, and more lately by Abercrombie, in the last edition of his work on Diseases of the Brain, p. 424.

Not only the seat, but the kind of the cause of the peripheric paralysis, may be conjectured with probability. When some disorganizing cause is present, with irritation—for example, the process of inflammation or softening—the law of eccentric appearance has force. The impression is referred by consciousness to the peripheric ends of the sensitive fibrils, and the patient complains of pain in those parts which have lost their capacity of conveying impressions from without. When a tumor capable of enlargement and extension compresses the fifth pair near the pons Varolii, one or more of the neighbouring nerves are affected at the same time; and this is made out by the relation of the symptoms in point of time, for their relation as regards space might occur from a central affection of the nerves in the brain. The various steps of the paralysis occur in succession, by which the case becomes very instructive in point of diagnosis.

When paralysis of the fifth pair has a central origin, I have always found that

the portio minor and the third sensitive branch are paralyzed at the same time. Partial anæsthesia and paralysis of the masticatory muscles are present, and they are almost always confined to one side of the face, just as when the origin of the paralysis is peripheric. I have always found it so in recent hæmorrhage of the brain, when, by the combination with hemiplegia, the analogy pointed out by Müller (*Handb. d. Physiol. I. Bd. 2 Abth.* § 637) between the third branch and the spinal nerves (the former arising from the union of the motor portio minor and a part of the sensitive portio major), becomes still more evident. This anæsthesia is quite complete, as in the case given above; one half of the tongue is deprived of taste as well as of feeling, and a more frequent opportunity is thus afforded of convincing oneself of the sensitive and gustatory powers of the lingual nerve. But if the patient survives the attack, the anæsthesia seldom lasts so long as the paralysis of the masticatory muscles, just as in the paralyzed extremities feeling returns sooner than motion. The central origin may be recognised as well from the equal participation of other nerves (most commonly the facialis, the hypoglossus, and the nerves of the arm and leg), as from the fact that transmission usually takes place transversely, while in peripheric affections it takes place on the same side. I have set this forth at greater length in another essay, entitled *Neuropathologische Studien*, in the *Wochenschrift für die ges. Heilk. Jahrg* 1836.—*Müller's Archiv.* 1838, *Heft*. iii.

LITERARY INTELLIGENCE.

Nearly ready—Tea; its Medicinal and Moral Effects. By G. G. Sigmond, M.D.

BOOKS RECEIVED FOR REVIEW.

Illustrations of Cutaneous Disease: a Series of Delineations of the Affections of the Skin in their more interesting and frequent forms; with a Practical Summary of their Symptoms, Diagnosis, and Treatment, including appropriate Formulæ. By Robert Willis, M.D. &c. Parts I. II. and III. Baillière. London, 1839.

A Series of Anatomical Plates, &c. &c By Dr. Quain and Mr. E. Wilson. Division IV. *Viscera*, 2.

Outlines of Human Physiology. By Pulteney Alison, M.D. F.R.S.E. &c. &c. Third edition. Blackwood, Edinburgh.

The Transactions of the Provincial Medical and Surgical Association, instituted 1832. Vol. VII. London and Worcester, 1839.

Elements of Physiology. By J. Müller, M.D. Translated from the German, with Notes, by William Baly, M.D. &c. Part V. containing *The Senses*. Taylor and Walton, 1839.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, June 6, 1839.

Edward Robert Lock, Debenham, Suffolk.—George Harvey Betts, Watford, Herts.—John Roycraft.—Robert M'Leownan.—William Shuttleworth, Manchester.—John James Wright, Stamford Bridge, near York.

Thursday, June 13, 1839.

Charles Durie, Blackburn.—Richard Saville Jackson.—Robert Denmark.—George Mackrell Nealds, Ripley, Surrey.—George Thompson Cooper.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *June* 11, 1839.

Abscess	1	Fever, Typhus	1
Age and Debility	16	Heart, diseased	1
Apoplexy	3	Hooping Cough	5
Asthma	10	Inflammation	9
Cancer	1	Brain	7
Childbirth	3	Lungs and Pleura	5
Consumption	36	Liver, diseased	1
Convulsions	18	Measles	14
Croup	2	Mortification	1
Dentition	4	Paralysis	5
Dropsy	9	Small-pox	1
Dropsy in the Brain	5	Spasms	1
Dropsy in the Chest	1	Stricture	1
Erysipelas	2	Thrush	1
Fever	7	Unknown Causes	97
Fever, Intermittent, or Ague	3	Casualties	9
Fever, Scarlet	9		

Increase of Burials, as compared with the preceding week . . . 28

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

June.	THERMOMETER.		BAROMETER.	
Thursday . 6	from 48	to 63	29·87	to 29·87
Friday . . 7	52	65	29·81	29·71
Saturday . 8	51	70	29·80	29·82
Sunday . . 9	52	70	29·92	30·06
Monday . . 10	50	69	30·18	30·17
Tuesday . . 11	56	73	30·12	30·17
Wednesday 12	49	75	30·16	30·02

Prevailing wind, S.W.

Except the 7th and 8th, generally clear; rain fell on the 7th.

Rain fallen, ·375 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JUNE 22, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Lithic acid diathesis.—It is intended to express by this a tendency to deposit lithic acid, either pure or in combination with some base. It has been shewn in a former part of these lectures, that lithic acid requires ten thousand parts of water for solution; and that it could scarcely exist at all in the urine unless in soluble combination with some base, and that this base is ammonia. We therefore find that when this principle is deposited, it is either in its pure state or as lithate of ammonia, and therefore lithic urinary calculi always consist of one or other of these principles. The deposition, therefore, of these two principles may arise from one or other of the following circumstances:—Either so large a proportion of the substance may be secreted, that the watery portion of the urine is not sufficient to hold it in solution; or some other principle—an acid, for instance—may be secreted in such abundance as to precipitate the lithic. In the first of these cases the lithate of ammonia is the matter deposited; in the second, lithic acid separates frequently in the crystallized form, or as gravel.

Lithate of ammonia sometimes so abounds in the urine, that although it is held in solution at the temperature of the urine when passed, yet separates when it has reached the temperature of the atmosphere. Here are specimens in which, as you see, it has separated in great quantity, but by heating the urine it re-dissolves. It also assumes various colours, as we have already seen; but it is not necessary to enter at length upon these. It may be either yellow, red, or pink. They do not under common circumstances concrete into stones, but are rather attendant upon particular states of system. They are very frequently associated with fever, and are frequently produced in large quantity when the function of the skin has been much excited.

It may be questionable whether lithic is ever generated alone in such quantity as to be insoluble in the urine. When the quantity of lithic acid exceeds the usual standard, it is probably secreted with a sufficiency of ammonia to hold it in solution. If, then, when the urine abounds in lithate of ammonia, any other acid be secreted in a free state, the lithic will be disengaged, and will separate in the crystallized form. If to this urine we add some acetic or hydrochloric acid, as it contains a large proportion of lithate of ammonia, the lithic acid will separate in the crystalline form. Here is some in this tube which has been treated with dilute hydrochloric acid, so that the lithic acid has separated gradually, and you see it deposited in crystals upon the sides of the tube, especially upon that side which has been a little more dependent. This is probably the way in which lithic crystallized deposits take place. The precipitating acids are perhaps various. The mineral acids—as the sulphuric, phosphoric, hydrochloric—act remotely; that is, they displace the weaker or combustible acids, setting them free; and they in turn displace the lithic. Thus the lactic and sometimes even the carbonic, which, as we have already seen, displaces the lithic. In the specimens of gravel which I shew

you, you see that the lithic acid has a crystalline appearance. If lithic acid be dissolved in potass, and then precipitated, it at first separates as a bulky gelatinous mass, which does not assume the crystalline appearance for some time. "This," says Prout, "is a very important point connected with the pathological history of this principle, as the state above alluded to is that in which it is first separated from the kidneys, and often exists in the urine; and the knowledge of which will enable us to explain almost all the phenomena of lithic acid gravel*."

We have already stated in a general way the symptoms of calculi in the different parts of the urinary apparatus. But these symptoms alone are equivocal, and therefore it is necessary to attend to the state of the urine, by which our diagnosis will be materially assisted. The deposition of crystallized lithic acid in the urine is usually attended with pain or uneasiness in the loins or region of the kidneys. These pains are very frequently mistaken for lumbago. But they are attended with considerable irritation, and a sense of burning about the neck of the bladder, extending along the course of the urethra. There is desire to void the urine very frequently, which is passed in very small quantity at a time, and leaves a sensation as if something remained behind in the bladder.

The digestion, too, is much deranged; if not constantly so, is very easily deranged by the slightest errors in diet, or even regimen. Hence crudities, acidity, flatulency, upon the slightest errors, as the use of fruit, acids, ascescent wines, vegetables, salads, pastry, and such unfermented grain, fresh bread, fatty and indigestible aliments of all kinds.

With respect to the state of the urine, as to its sensible qualities, it will be found in general to be transparent, and of a bright copper colour, or assumes these appearances on cooling. This condition of urine generally indicates acidity. In relation to the mechanical properties, the quantity, though small at each micturition, yet, from the frequency, it amounts to quite a sufficiency in the twenty-four hours. The specific gravity is generally high—from 1·020 to 1·025, or even more. Chemically, it is distinctly acid. Thus it produces an acidulous reaction upon litmus paper; but as healthy urine does and ought to redden litmus, it will require practice to determine whether the effect be owing to a free acid, or to the lithate and superphosphate, &c. of ammonia which it naturally contains. The separation of the lithic is a very good indication of the presence of a free acid; and, indeed, even the quantity may be estimated by the time required, and the quantity of lithic acid precipitated. Thus, if the lithic acid is not precipitated for some time, or until the urine has begun to cool, the quantity of precipitating acid is not very abundant. But if no lithic acid at all precipitates, then this has taken place in the bladder, and the quantity of free acid must be considerable, and a very formidable disease is indicated. If, then, the functional signs be assisted by an examination into the state of the urine, we shall not have much difficulty in determining the existence of the lithic acid diathesis.

Causes and pathology.—The causes which, acting chemically on the urine, produce precipitates and the aggregation of these, are obvious enough; but what gives rise to such tendencies, or why the elements of calculous concretions should be generated in such unusual proportion, is matter which seems to be still involved in considerable physiological obscurity. Aretæus solves the difficulty very easily: he says there are but two causes; "in old men the body is cold, and the blood thick; cold, moreover, more quickly inspissates thick matters; of which, the naturally warm springs which are speedily congealed into a sort of callous stone by cold are an illustration; but in children a great quantity of slimy matter, washed out from the blood, affords the origin of the generation of calculi. These are the affections from the generation of calculi*."

Upon the generation of lithic acid, after what has been stated upon it and urea in the commencement of these lectures, it will be unnecessary to traverse over again the same ground. We found that there were some grounds for believing that urea was probably the primitive, and convertible into lithic acid †. Therefore if such views should be ultimately established, the pathology will consist in developing the means by which this conversion takes place to so unnatural an extent; for in the lithic acid diathesis, not only is this principle precipitated, but it is generated in

* Gulstonian Lectures, MED. GAZ. June 25, 1831.

* Διτλαὶ δὲ αἱ αἰτίαι της πήξιος· γέρουσι μὲν, τὸ σῶμα ψυχρον, παχὺ το αἷμα. ψυχρὸν δὲ τὰ παχέα θᾶσσον πήγνυσι· τέκμαρ δε, τῶν ὑδάτων τῶν θερμων φὺσει αἱ πηγαὶ, ἀποψυχθέντα γὰρ ἐς πωροειδέω λίθον πήγνυται. παιδίοισι δέ πολλὸν ὑπό τὸυ αἵματος τὸ ἱλυῶδες ἐψηθὲν γενέσιος, ὅκως πῦρ, τὴν ἕδραν ἴσχει λίθων μὲν οὖν ἀμφὶ γενέσιος, τοιάδε πάθη.—*De Sig. et Caus. Diut. Morb. lib.* ii., *cap.* 3.

† Very often in urine from which lithic separates abundantly, or which abounds in lithate of ammonia, there is a very great excess of urea, as may be satisfactorily shewn by nitric acid.

much larger proportion than in health. We know that lithate of ammonia frequently exists in the urine in very large quantity, as you may observe in the specimen which we have here. Evidently the lithic acid separated and estimated would greatly exceed ·001 of the urine, and therefore must proportionally exceed at least the admitted healthy proportion.

It has also been stated that urea, and even lithic acid, have been—the former certainly, the latter more doubtfully—detected in the blood. You may also remember that Dr. Prout considers albumen as the radicle the proximate elements of which are urea and lithate of ammonia. These things admitted, there can be no great difficulty in conceiving the presence of lithic acid, and, of course, its precipitation when an excess of any acid is generated by the kidney. For further remarks upon this question I must therefore refer you to the lectures on the pathology of urinary diseases in general.

In considering the causes and general circumstances under which lithic acid appears in the urine, and the constitutional condition with which it is associated, we find the tendency and danger to be greatly modified by the age of the patient. Children, especially those of dyspeptic and gouty parents, are very liable to lithic deposits of whatever form. When of the amorphous character, their appearance is not attended with much irritation in the urinary system; but when there is a frequent desire to pass the urine, and that it is voided in small quantities at a time, if the urine be carefully examined it will be found to abound in lithic acid, and this principle will be found to separate in the crystalline form. The irritation in such cases frequently causes the child to wet the bed. Such cases require immediate attention, to prevent evil consequences.

When arrived at puberty, however, we find from this to the age of forty that the tendency to lithic acid deposits is much less than at any other period of life. Where, however, there is a very strong tendency to derangements of this kind, the period of life offers no obstacle to lithic deposits, and they continue sometimes uninterruptedly, at other times with occasional remissions. This, in fact, is what gives the laminated character to calculi, there appearing to be periods during which the deposition of lithic acid is interrupted; when, after a time, it again separates and gives a fresh coating to the calculus. Except in the more severe cases, the lithic acid is mostly voided in the state of gravel, and consequently the irritation and other secondary symptoms are not severe. They therefore attract but little notice; and as, at the period when the lithic acid is deposited from the urine, the patient's health is better than ordinary, this serves to lull his apprehensions. Principally from these circumstances, there is less danger of the formation of calculi at this period than at any other. But should it occur, it is generally owing to accident or some other adventitious circumstance, unless, indeed, there is a more than usual tendency to the disease.

After forty, lithic acid will now be found to be deposited in very large quantities at intervals. The deposition is found to be preceded, for some time, by febrile action and general derangement of the health. The acid, too, now separates in the concrete state, and it is thus that renal calculi are frequently originated. These things are most apt to occur in persons who have been subject, generally all their lives, to lithic deposits. The same, too, are apt to occur in those who have lived an indolent, luxurious sort of life, and who may be supposed to have an hereditary disposition to gout, although they may have never had an evident attack of the disease.

We generally find the health of persons subject to urinary affections much influenced by the discharge or non-discharge of lithic acid with the urine. Thus such persons never feel so well nor so free from their ordinary derangements, as when lithic acid gravel is freely deposited by the urine. Thus nervous affections, indigestion, crudities, and other anomalous symptoms which have long harassed the patient, suddenly remit on the discharge of lithic acid gravel or a small renal calculus.

About sixty or seventy, when the constitution has sustained a severe shock, the urinary system partakes of the general decay, and there is a corresponding change in the mode in which the lithic acid separates. Frequently the bladder becomes diseased; mucus in excess, and even pus, are now found in the urine; and hence the urine is neutral, and the earthy phosphates begin to predominate. "Under these circumstances, where the urine had previously for years deposited the lithic acid chiefly in the state of crystals, these will in a great measure disappear, and, instead of them, impure or imperfect lithic acid, in the shape of minute globules of various sizes, will be separated from the kidneys in great abundance. In most of these cases, there is a good deal of pain in the back and irritation about the urinary organs, even when the concretions are only of small size. In others there is much less irritation under these circumstances than one could imagine. In all instances, however, this may be considered as a most

dangerous state of disease, not only from the constant liability of the patient to the formation of renal or vesical calculi, which all other circumstances likewise conspire to render probable, but, on the other hand, from the danger there is of suddenly checking the secretion of lithic acid, which is sometimes followed by great derangement of the general health, and apoplexy*." The same authority likewise asserts, that organic diseases of the kidney, or even of the parts contiguous, are exceedingly apt, in some habits, to be accompanied by the secretion of a large proportion of lithic acid. Thus nothing is more common than to see those who have suffered from hepatic affections in hot climates, &c. labour under gravel; and in such cases, the right kidney is almost always the evident seat of the disease †.

Calculous, and so far lithic, depositions are often associated with cutaneous affections. I have repeatedly seen instances of this kind. Sir Gilbert Blane also states, that calculous affections are often associated with cutaneous diseases, especially impetigo, dependent on an hereditary predisposition, and incident on what has been termed a scorbutic habit ‡. Excesses also in eating and drinking, with indolent habits, as in gout, frequently cause a calculous deposit in the urine. "Most frequently, however," says Prout, "the tendency to these diseases is connected with some unknown causes peculiar to certain districts or countries; as, for example, the district of which Norwich may be considered as the centre, in which more calculous cases occur than in the whole of Ireland and Scotland§. In such instances, the water, diet, temperature, &c. of the district has each been accused, in its turn, of being the exciting cause; and that hard waters, in conjunction with other favourable circumstances, have a great influence in producing this affection, I have no doubt¶. In a word, it may be stated, that if lithic acid be generated in excess, either alone or in combination with a base, any thing favouring the generation of free acid, will cause a deposition of the lithic acid, and the formation of this description of calculus. Every agent affecting the health, therefore, will have an effect of this kind. Dr. Prout mentions two instances of this predisposition called into action by sitting on a cold damp seat for some hours. Hard-boiled dumplings and badly fermented bread have a similar operation, and it is necessary to remember these, as correcting or obviating such form an essential part of the treatment.

Treatment. — The treatment properly consists of those means which are best suited to arrest the effects of this diathesis, and to prevent or limit the consequences that would increase if its progress were unrestrained. As we have shewn that lithic acid shews itself under two distinct forms, it will perhaps be the better plan to consider each by itself, therefore that will bring us to consider the treatment of lithic acid in the amorphous and in the crystallized form.

Amorphous sediments.—In has been shewn that these appear in three varieties, viz. as yellow, red, or lateritious, and as pink sediments. The first shews a very great predisposition to all the phenomena and consequences of the perfect and most complete lithic acid diathesis. These consist principally of the lithate of ammonia, coloured by the colouring matter of the urine, but at the same time intermixed with a greater or less proportion of the phosphates, and some lithate of soda. They appear, in dyspeptic persons, upon the slightest errors in diet, and the paler they are the greater the tendency to a deposition of the phosphates. The treatment, therefore, can scarcely be reduced to any formal plan, and must depend upon the circumstances of each particular case. The patient should avoid all errors in diet; should strictly and carefully attend to regimen, as exercise, clothing, &c. Thus the quantity and quality of the food should be carefully regulated; for although errors of this sort may not occur frequently, yet irregularity leaves consequences that are overcome only by a long subsequent repentance. Dr. Prout lays it down as an axiom, that excess in the quantity is more injurious than in the quality of the food. "Any stomach may digest a *little* of any thing, but no stomach can digest a *great deal* of any thing." I have entered so fully into the general treatment of indigestion in relation to urinary disorders, in an early part of these lectures, that I do not consider it necessary to take up any more time here upon the subject.

Red or lateritious sediments.—These, as was before observed, principally consists of lithate of ammonia, or of soda, or sometimes a mixture of both, tinged with the colouring matter of the urine, with a mixture of more or less of the purpurates of the same bases. These sediments generally indicate the secretion of nitric acid, and also the prevalence of fever of the phlogistic or inflammatory character. In fact, in all sorts of derange-

* Prout on the Urinary Organs, p. 135.
† Ibid. p. 136.
‡ Select Dissertations on several Subjects of Medical Science, by Sir G. Blane, Bart.
§ See Prout on the Urinary Organs, pp. 139-140.
¶ Ibid, 141.

ment, general or local, if these sediments appear we shall find the excitement run high, with hard frequent pulse and inflammatory action. Hence they prevail in rheumatism, gout, hepatic affections, the phlegmasia, and fevers of the synocha type.

The treatment, therefore, it is evident, must be antiphlogistic, but of course modified by the particular circumstances. As general means, we may mention bleeding, and other antiphlogistics, mercury, antimonials, and counter-irritants. The adaptation of other means must depend upon the particular nature of each case.

Pink sediments.—These sediments indicate a broken-down worn out constitution. Their colour is owing almost exclusively to the purpurate of ammonia, as they contain none of the colouring matter of the urine. They evidence a more copious secretion of lithic acid, and consequently the formation of a greater proportion of purpurate of ammonia, while the colouring matter of the urine present in such large proportion in inflammation, or inflammatory fever is almost wholly absent. They also frequently appear in the urine of dropsical patients labouring under organic diseases, in hectic persons, and those suffering from chronic diseases of the viscera.

In such cases it is evident that the treatment, even the constitutional, will depend upon a variety of local circumstances, and which it would be impossible individually to specify. In many cases, tonics and bitters are useful, and opium with other narcotics to calm the extraordinary irritability under which patients of this sort frequently labour. In general, antiphlogistic means, at least to any great extent, are not only uncalled for, but in many cases would be injurious. There may, of course, be cases present requiring the active employment of antiphlogistics, but as a general rule they will be seldom required. Mercurials, so useful in the former case, do not seem indicated here. Indeed, in such cases the urine frequently is loaded with albumen; and I have remarked, that mercury administered to any extent in such cases does a great deal of mischief, producing ulcerations of the surface, disease of the kidneys and of the mucous membrane of the bladder; or if all or any of these already exist, they are much aggravated by mercury, and rendered more inveterate. Upon the whole, therefore, it may be laid down that tonics, narcotics, and antispasmodics, are the best remedies here. I have in some cases found sarsaparilla a useful remedy; and I also think colchicum, judiciously administered, a useful remedy.

LECTURES

ON THE

VENEREAL DISEASE,

Delivered at the Aldersgate School of Medicine, March 1839,

By F. C. Skey, F.R.S. &c.

Lecture VII.

ON CATARRHAL VENEREAL DISEASE, OR GONORRHŒA.

Symptoms of gonorrhœa.—Mild and virulent.—Chordee.—Surface affected often disproportionate to the virulence.—Pathology of gonorrhœa.—Acquired both spontaneously and by contamination.—Difficulty of distinguishing venereal from other forms.—May be produced from leucorrhœa.—Ditto during menstruation.—Case of spontaneous gonorrhœa.—Rheumatic gonorrhœa.—Treatment.—Repellent and palliative.—Inflammation of neck of the bladder.—Excessive depletion objectionable.—Gleet.—Its nature and treatment.—Stricture.—Treatment of gleet by bougies inefficient.—Is gleet communicable?

Gonorrhœa consists in a discharge of purulent matter from the urethra, having for its ordinary concomitants, pain during the expulsion of urine (ardor urinæ), frequent desire of micturition, and chordee, or erections during sleep.

The disease commences with an itching sensation at the orifice of the urethra, which some authors have described as not altogether disagreeable; the itching is followed by inflammation of the canal within the glans, indicated by a red and swollen state of the orifice, in passing through which the urine generally creates pain—at first inconsiderable, and subsequently severe. Sometimes, however, pain is not present throughout the entire case to its cure.

In severe cases, a degree of soreness extends over the whole penis, which is greatly aggravated by the nocturnal erections. The fluid which first exudes from the orifice of the urethra, is small in quantity, and of a whey-like colour and consistence: this is gradually converted into pus of a greenish or of a pinkish hue, and of the consistence of cream.

Gonorrhœa arising from venereal contamination, exhibits its first symptom, that of itching and redness of the orifice, at an interval varying from 36 to 48 hours after connexion: these may continue during 18 or 24 hours longer, and the first discharge appears at an average of about three days from the date of the exciting cause.

The disease attains its height in about a week, and is then attended by great pain in making water, referred to the last inch

of the urethra alone, with discharge of thick, ropy, and greenish pus. In this state it will continue during a fortnight, or longer, provided the inflammation be not considerable. The pain then diminishes; the purulent matter becomes thinner and more watery; gradually lessens in quantity; and, at the expiration of about five or six weeks from its first appearance, the disease dies a natural death, leaving no trace behind of its existence, beyond a slight temporary contraction of the urethra, indicated by the diminished size of the stream of urine. This description, however, will not apply to all cases.

We often find it presenting symptoms which, whether caused by constitutional disposition, or laxity of treatment, protract its existence to a much longer period than that I have mentioned.

Instead of the pain during micturition being considerable, it may be so intense as to induce the person to prolong as much as possible the intervals between the act; or, again, irritation being conveyed to the bladder, may create a much more than usually frequent desire to micturate. The case may be complicated with chordee, or painful erections during sleep, spasm of the urethra, pain at the neck of the bladder and orifice of the anus, and discharge of pus discoloured by blood, or even of blood alone. Mr. Hunter divides chordee into inflammatory and spasmodic —a division of which I confess I am not cognizant. Mr. H., however, first explained the nature of chordee, and I shall quote his description, from his work on the Venereal Disease. He says, "When the inflammation is not confined merely to the surface of the urethra, but goes deeper, and affects the reticular membrane, it produces in it an extravasation of coagulable lymph, as in the adhesive inflammation, which, uniting the cells together, destroys the power of distension of the corpus spongiosum, and makes it unequal in this respect to the corpora cavernosa, and therefore a curvature on that side takes place, at the time of erection. The inner membrane being on the stretch, is sometimes torn, which causes a profuse bleeding from the urethra. Chordee arises from a greater degree of inflammation than common."

The spasmodic chordee, he says, comes and goes, but at no stated times.

It seems, perhaps, more reasonable to suppose that the occasional absence of pain during erection, which, by the by, generally occurs towards the latter stages of the affection, is due to the rapidity and degree of distension of the corpus spongiosum: if it be not so, Mr. H.'s explanation of the cause of chordee, which is that generally adopted, is probably erroneous; but this is unlikely. The inflammation attendant on gonorrhœa may be local, but severe; or more extensive, with a less degree of severity. In the former case, the ardor urinæ is intense, but local, and there is severe and repeated chordee throughout the night, which may be accompanied by the discharge of blood, or bloody matter. In the latter we have the pain during micturition, extending over a larger surface—perhaps involving the whole track of the urethra—with a deep aching pain about the orifice of the anus, pain in the neck of the bladder, and inability to retain the urine beyond the secretion of a few ounces, or even less.

Gonorrhœa may be the product of a poison similar to itself, introduced into the urethra during sexual intercourse, or may arise from other causes, independent of the presence of gonorrhœal matter, in the party from whom it is contracted.

The mode in which it is acquired from an infected person is not very easy to understand, unless we suppose that the mucous orifice of the urethra is the first part affected, and that the disease extends therefrom to its general seat, which occupies the canal within and somewhat below the glans.

I have adverted, in a former lecture, to the identical characters of the disease when arising spontaneously or produced by non-venereal irritation, and when appearing as the obvious result of true venereal contamination. There does exist, however, one point of occasional difference, although, I confess, I have no experience of a character sufficiently positive to justify the belief in the non-identity of the various forms of gonorrhœal or catarrhal disease of the uretha. I allude to the nearly uniform date from sexual intercourse which is believed to mark the true venereal gonorrhœa, and this I have stated at three days; whereas other examples, unequivocally not the product of venereal poison, are more irregular and uncertain in the date of their first appearance, the average, however, being considerably within the above period.

But in order to establish the venereal origin of the class of cases appearing at three days after connexion, rigid inquiry and long-continued observation are required; and although I have myself abundant experience of the early and almost immediate appearance of gonorrhœa in men after intercourse, who, tested by a form of evidence that, on any other subject, would carry conviction to the most sceptical mind, were indisputably not the subjects of gonorrhœal contamination, still the origin by venereal contamination of the more regular form, can only be maintained on such evidence as will establish the posi-

tive existence of venereal poison in *all* such cases. It is not sufficient that we observe the irregular date of appearance of non-venereal gonorrhœa, but we must also be convinced of the venereal character of the regular forms. At this experience we have not arrived, and till this is accomplished I shall hold to my former statement—viz. that there exists no distinctive symptoms by which to discriminate the spontaneous from the venereal gonorrhœa.

But setting aside the question as to the date of their first appearance, all the other symptoms are the same, as are the means to be resorted to, for their respective cure; still I cannot entertain a doubt that a very considerable proportion of cases of gonorrhœa, are *not* the product of a specific poison.

The opinion favourable to such contamination by a specific poison, is founded on the analogy of the mode of propagation of apparently similar diseases. Still the power of contamination is no proof of the non-spontaneous origin of a disease, even though venereal; nor is it surprising that the opinion should have generally prevailed that gonorrhœal matter is indispensable to the communication of gonorrhœa. Discharges from the urethra have been known and described, by all authors who have written on this subject, from the date of Mr. Hunter's work. Yet the authority of the old doctrines has, as I conceive, so prejudiced the reasonings of these writers, that the spontaneous origin of gonorrhœa is never admitted; so that whenever the discharge of matter occurs, without evidence unfavourable to contamination, it is pronounced venereal; and when arising independently of connexion, or fol lowing connexion with a person declared free from disease, it is termed simply "*discharge from the urethra ;*" and yet, coupled with this discharge, we have painful micturition, severe chordee, great irritation in the perineum and bladder, and, I would venture to add, the power of propagating gonorrhœal disease.

It is rather a striking fact, that gonorrhœal disease is greatly limited to age and habit. The disposition appears to become exhausted in the course of years, although the habit of promiscuous intercourse, the liabilities from external causes remaining the same, continues unchecked. We do not frequently see cases of gonorrhœa in persons above 28 or 30 years of age. It is also rare for a person to have had one single clap only; either he has been the subject of two or more, or he has escaped that form of disease entirely.

Do not these facts point to the disease as generated only in some peculiar states of constitution, and often rather developed by sexual intercourse, than communicated from external sources of contamination?

The opinions I entertain on this subject, are not the product of mere speculation, and still less of a desire to differ with other and more experienced authorities. They are deduced from, what appeared to my judgment, positive facts, and those by no means few or far between. I may venture to say it is notorious that leucorrhœa will produce gonorrhœal discharge; and if a poison be essential to gonorrhœa, whence comes it? Leucorrhœa is not supposed to contain the elements of gonorrhœal poison. Again, gonorrhœa is by no means an infrequent result from intercourse about the period of menstruation; and it also follows intercourse with women under circumstances of mechanical violence. Either of these conditions may produce the disease in question; and if you will make inquiry in the course of your future practice, you will have no difficulty in obtaining examples sufficient to convince yourselves of the fact. It is an important fact to establish, because its knowledge will teach us caution in unhesitatingly denouncing the sources from which the disease has been derived, and distrusting the positive assurances of persons whose word had been hitherto unquestioned, and whose characters had been spotless. But it has been argued by those who distrust these views, why do not these diseases attack married men? why should either sex be exempt from them? I reply, that they are not exempt; that such diseases do occur, and by no means with the infrequency you may imagine, in the early period of married life. At least I am satisfied that our sex by no means rarely pays this penalty of seduction, more especially of very young women, and even when the act is not completed. I can readily conceive reasons why it is not more frequent in married life, but on them I shall not now dwell. It is sufficient for my purpose, that gonorrhæa does occasionally occur between healthy persons, having intercourse with none others. I mentioned one example in my first lecture on this subject: it was that of a young gentleman who seduced a girl of somewhat youthful years. I knew him well for a considerable time prior to the occurrence; and I will take upon myself to assert, that he had never committed himself to a single act of intercourse with woman till that hour. The parties resided in the same house, and their intercourse was frequent. After indulging their mutual inclinations during three months, he called on me one morning, and, in a state of the deepest despondency, related to me the particulars of his amour, and stated that he had a severe

gonorrhœa. He added, that he did not care for the disease, but he was horror-struck at the idea that his immorality had so soon corrupted the virtue of a hitherto modest girl. Of course I asked him whether the young lady was still attached to him, and whether he had reason to suspect her fidelity. The earnestness of his reply convinced me of the sincerity of his conviction, that her attachment was unabated; and but for this evidence to the contrary, that her fidelity was unchanged. I told him that I would see him safely through the gonorrhœa; but advised him in future to be more cautious, and to abstain from intercourse with that, or any other damsel, about or during the period of menstruation. He pleaded guilty to this surmise. His gonorrhœa was very severe; he was three months under treatment, with chordee, bloody discharge, and general inflammation of the whole urethra and neck of the bladder. His case I treated as I would treat any, and all other similar forms of the same disease, from whatever cause they might arise.

I have selected this, because it was a well-marked case, and more especially because I knew the gentleman intimately, and have the fullest reliance on his word.

This form of gonorrhœa is comparatively uncommon, because peculiar constitutions, or peculiar states of the health, are essential to its occurrence. It is most commonly attendant on rheumatic diatheses, when it is often accompanied by general rheumatism, affecting the joints, the loins, and the sciatic nerve—cases that are known under the title of gonorrhœal rheumatism, from the idea, that the constitutional symptoms are the product of the local cause. They are brought forwards as examples of the constitutional symptoms of gonorrhœa. If such a case present itself to you, you will find on inquiry, that rheumatism has again and again existed in the affected person without gonorrhœa; that discharge from the urethra, more or less acute, has previously appeared during an attack, after long abstinence from sexual intercourse, when the presence of a specific poison was manifestly impossible, and that in truth the rheumatic habit is the exciting cause, and the gonorrhœa the effect, and not *vice versâ*. You will, I think, agree with those who accord to this disease the title of *rheumatic gonorrhœa*, which may appear entirely spontaneously, and without the excitement of sexual intercourse, or may appear as the product of such excitement; and if so, its symptoms will generally prove in all respects more severe and more protracted. If you examine these patients critically, they will most frequently themselves express surprise at the appearance of clap, whether in reference to the source from which they are driven, only by their misapplied confidence in our arbitrary assurance, to suspect it, or to the length of time that had elapsed since they had had connexion at all.

In a number of the Medical Gazette for January 1839 is a paper by Mr. Lawrence, in which he details a case of the above kind, which had been for some weeks under my care at St. Bartholomew's Hospital, during his absence. The case is quoted as an example of gonorrhœal rheumatism; but in this, as in almost every other, I obtained such information as convinced me, that the view I have taken of this disease fully justified the opinion I have stated. The man was a baker—an employment in which rheumatism is most rife. "He had had," states Mr. L., "an attack of gonorrhœa four years prior, which lasted five or six months, without causing any mischief beyond the primary seat of the disorder." In 1837 he contracted gonorrhœa again; it was attended with profuse discharge, but not much scalding pain. The limbs became affected in a few days. The testicle became inflamed, and the discharge from the urethra ceased with the rheumatic pains; the testicle protruded through an ulcerated opening of the scrotum, and was subsequently detached. The gonorrhœal discharge reappeared after upwards of two months' residence in the hospital, and, with it, the swelling and pain of the joints."

I remember to have made particular inquiry into the early history of this case, and I confess, however unwilling I may be to differ in opinion from Mr. Lawrence, that I did not then, nor do I now, entertain a doubt that the gonorrhœal affection was but a symptom of that rheumatic attack which, with the inflamed testis running on to so very unusual a crisis, formed in reality the staple commodity of the case.

In a work entitled, "Sur la Non-existence de la Maladie Vénérienne," a case is quoted which, although fortunately of too deep a tone to accord with examples at the present day, and attended with consequences which, to the honour of our nature, we may hope are rare, yet points to the necessity of exercising caution in our decisions, especially when their moral influence is likely to weigh greatly in the scale. A young man became attached to a young female friend, "à peine sortie de l'enfance," and married her after some years of mutual attachment. Some months after this "hymen fortuné"! the young man was compelled to take a journey to some distance, and, while travelling, he experienced pain in making water, and shortly perceived a discharge from the

urethra. On arriving at a town, he consulted an eminent surgeon, who assured him he had a gonorrhœa. "Mais, monsieur, je suis nouvellement marié," and assured the learned surgeon, that he had never known any woman but his wife from the hour of his birth. "Comment," repond le chirurgien, en souriant, "vous voudrez me cacher la cause de votre mal: de quelle pays êtes-vous? Vos jeunes gens rougiroient; je vous certifie, monsieur, que vous avez une belle et bonne chaudepisse." The youth continued to protest his innocence. Some days after the testicle swelled. The surgeon now assured him that if his wife were virtuous, that he must have had "une affaire" with other women, and that the pox remained in his blood from that period. Between the two alternatives of his own or his wife's purity, of course he could not entertain a doubt. He wrote to her an indignant and passionate letter, and then blew out his brains. The unfortunate woman submitted to an examination, which proved her free from disease—never uttered another word—shortly miscarried, and died. So much for the honour of our noble profession!

Now, that this man was the subject of "une belle et bonne chaudepisse," who can for a moment doubt? and who can hesitate to acknowledge that all the symptoms of virulent gonorrhœa might have followed? So far no wrong was done; but to assert that he had acquired the malady of necessity from sexual intercourse, was a flagrant and unpardonable outrage on truth, and hence the horrible tragedy that followed.

The discharge of gonorrhœa is poured out from the secernent capillaries of the mucous lining of the urethra, occupying generally the upper one or two inches. It is not confined to the follicles or lacunæ, but is secreted from the whole surface of that portion of the canal, which is neither ulcerated, nor even excoriated, although it occasionally presents the appearance of rawness, from the acute degree of the inflammation. As I have before stated, the canal may be affected along its whole extent; that is to say, it may participate in the general inflammation, while the purulent secretion is probably confined to the upper portion.

Treatment of Gonorrhœa.

The treatment of gonorrhœa will be modified by the date—by the intensity of the disease—and by the constitution of the subject. To take the disease in its earliest stage, as the first subject of consideration, we may treat it on the principle of escharotics to certain forms of sore. But this will only apply to the very early stage, before either painful micturition or purulent discharge is established. It is applicable, therefore, to cases in which gonorrhœa may be expected, rather than those in which it exists. This treatment, which is powerfully repellent, consists in the recourse to the most positive stimulants, which may be applied both locally and internally. As injections, we may employ from three to five grains of sulphate of copper to an ounce of water, or ten grains of sulphate of zinc to the ounce. This should be injected every two or three hours; while a drachm of cubebs pepper, or thirty drops of copaiba balsam, and the same quantity of turpentine, may be taken in a strong decoction of lignum vitæ, or armoracia root, or even in water, three times during the day.

By these means the disease is diverted from its natural course, and its career may be destroyed; but it is dangerous practice, and should not be resorted to, except in cases of emergency. Swelled testicle is a frequent result; and I have known the discharge to have temporarily yielded under a smart attack of orchitis, and return at the expiration of some days. I apprehend that this treatment by revulsion, can never be warrantable but in the very earliest appearance of the discharge, probably within twenty-four hours.

Gonorrhœa attains its natural crisis more uninterruptedly in a moderately full than in a languid habit; but extremes of both are sources of aggravation; the first as regards intensity—the second, time. I am not aware that the science of surgery affords any means, by which a confirmed clap can be suddenly arrested in its career; and the attempt, if made, is not productive of any but an evil result.

For a period of two or three weeks the treatment should be strictly palliative; the diet should be moderately reduced; the bowels relaxed, but not considerably; the local inflammation, mitigated by frequent fomentation and rest; and under circumstances of great activity, combined with great physical power, and a full and hard pulse, sixteen ounces of blood may be abstracted early. The painful micturition may be relieved by thirty drops of liquor potassæ, combined with five or six of tincture of opium, three times during the day. I find advantage from the following form, which I order to be taken every night in milk:—

Pulv. Jalapæ, gr. x.; Pulv. Acaciæ, ʒij.

Perseverance in these measures during a fortnight will exhaust the activity of the disease; the improvement will be indicated by a diminution of pain in

making water, as also diminution of the quantity of the discharge, which becomes paler in colour, and more aqueous in consistence. As soon as this stage is accomplished, the treatment should undergo a corresponding change, otherwise the disease will become protracted under the form of gleet. The diet may be improved, and the laxative omitted altogether; a moderate quantity of wine is not undesirable, if the person be accustomed to that or similar stimuli while in health.

Should the healthy career of the case be interrupted by chordee, in all probability the cure will be more or less protracted, because its presence indicates a hitherto uncontrolled inflammation of the urethra, which has extended to the erectile tissue of the corpus spongiosum. This condition of that body is not always perceptible on examination, but it usually leaves considerable soreness along the track of the canal. After chordee has existed for some time, we can perceive the presence of lymph by the finger often poured out around the urethra, chiefly in the region of the scrotum, where it presents one or more indurated masses of a roundish form, to which more especially the pain is referred during erection. These swellings become sufficiently large to compress the urethra, and present considerable difficulty both to the flow of urine, and to the introduction of instruments towards the bladder.

Chordee is not a common symptom of gonorrhœa in its early stage; and is, I think, more frequently asthenic in its nature, though not necessarily so. We treat it with opium, to which calomel may be added. The opium will check it without doubt, for a few nights; and as soon as this end is accomplished, the sedative should be desisted from.

The immediate pain may be warded off by local pressure of the hand, if the person is resolute enough to grasp the organ, and relax the spongy portion by curving it downwards. The application of cold is also an important resource.

Sometimes the healthy progress of the case is interrupted, and an aggravation of the symptoms caused, by some act of imprudence on the part of the patient, of which inflammation of the neck of the bladder may be the result. Under these circumstances, the discharge often ceasing, we have frequent micturition from inability of the bladder to hold the urine for a longer period than a quarter or half an hour; pain extends along the track of the urethra, and occupies the substance of the glans, accompanied by dysury; spasm of the urethra, and pain in the hypogastrium, the loins, and the inner and front part of the thighs; pain is also often referred to the rectum, and around the anus. All these symptoms are aggravated by exercise, and, in this state, patients are incapacitated for exertion of almost every kind.

The treatment should be moderately antiphlogistic. Leeches, in number proportioned to the activity of the pain and strength of the person, should be applied to the perineum. The horizontal position, and the frequent application of very hot flannels to the external organs and perineum, will afford considerable relief, after depletion; and a mixture of vinum colchici, sulphuric æther, and tincture of opium, in moderately large doses, will generally arrest the activity of the disease; and, as I said with respect to gonorrhœa in general, so I add in reference to this symptom—that as soon as you have broken the neck of the inflammation, deplete no more, but immediately substitute carbonate of ammonia in five-grain doses, or very small doses of copaiba or turpentine, and the spirit of juniper—*vulgò*, a glass of hot gin and water, *horâ somni*.

One great objection to excess of depletion in gonorrhœa, is the liability of the purulent discharge to degenerate into gleet as the inflammation subsides. This is a great evil, for its inconvenience and its obstinacy are almost proverbial. It is generally unattended with pain, or, indeed, any other symptom.

The secretion of true gleet is serous merely, combined with the mucus of the urethra; but it will vary according to the excitement to which the parts are subjected. It may be occasionally accompanied with slight pain in micturition, and during erection, and, of course, the more active the symptoms, the nearer the approach to the puriform character.

There is obviously, therefore, no distinct boundary which points to the cessation of gonorrhœa, and its crisis in gleet; the change is gradual and imperceptible. If you treat a person habitually prone to large libations of drink, by entire desistance from his ordinary and necessary stimuli, he will have a protracted gleet; and this principle holds in all cases, *cæteris paribus*, in which the depletion, whether positive or negative, has been needlessly persisted in: therefore the first consideration applies to constitutional treatment, which is, at least, equally important to local. I recently had a man under my care, who, when in health, took *per diem* about one gallon of porter, in addition to an occasional glass of gin. He had been the subject of gleet for ten months, for which he had employed the usual catalogue of local remedies. I desired him to leave the gleet to take its own course, and resume

his usual drink. He perfectly recovered in a week, and has had no return of the discharge. First, then, it appears to me necessary to raise the standard of the circulation and nervous power, by resuming ordinary diet and ordinary stimuli; and to this I generally devote a week or ten days; during which, I do not think you will find the local malady to advance, although it may feel the effects of the first increase. The general treatment often, I will not say invariably adopted, I consider objectionable, and chiefly because it fails in its object. It consists in the administration of large and still larger doses of internal stimuli; of which those in most frequent use are turpentine, copaiba balsam, and cubebs pepper; and of local injections of alum, sulphates of zinc and copper, and nitrate of silver. The zinc is used in the proportion of from 3 to 5 grs. to the ounce of water, and each of the other salts in similar proportions. On these failing, the strength is increased indefinitely, often extending to 8 or 10 grains to the ounce.

The consequence of these remedies, both local and general, is that the vessels, weak and exhausted by depletion, are severely constricted, and re-action is the inevitable result, producing a return of the malady.

When a gleet has existed for a considerable time, it becomes, as it were, naturalized to the surface, and not unreasonably resents such violent measures employed to eject it; whereas, by gradually undermining its resources, by giving vigor to the vessels which supply it, and by wearing out its energies by persevering but mild appeals to its forbearance, the vessels will gradually assume a healthier action, and the discharge will cease; and it is not often that this argument will fail. When a patient applies to you with gleet of long continuance, let him desist for a week from all treatment, local and general. Then, if his diet has been low, from the fear of aggravating the evil, enlarge it to the standard of his habits in health, and commence with an injection of sulphate of zinc, in the proportion of five grains to eight ounces of water. He will possibly reply—"Oh, sir, that will do me no good; I've used injections of ten times that strength, and they have failed." The answer obviouly is, "They have failed, *because* they possessed ten times that strength." But now, instead of injecting at night and morning only, you must desire him to employ the remedy sufficiently often to compensate for its weakness; and he should inject it warm every three hours. If it produce the slightest pain, lower the strength to four, or even three grains; but this rarely happens.

At the same time you may order very small quantities of turpentine, &c. I often recommend eight or ten drops of copaiba and of turpentine, to be taken three or four times a day, and with advantage. The immediate effect of these remedies is very slight; but, by repeating their application at short intervals, you confirm the advantage gained, small as it may be, while in the aggregate you will have obtained all you desire. Should these quantities fail, they may be slowly increased, but never to such an extent as to lose sight of the principle on which they are recommended. I cannot say that I have much experience of the advantage of passing bougies in gleet, even when coupled with stricture. I do not think stricture is often a cause of gleet; at all events, that the gleet will subside on the removal of the cause, supposing it to exist in that relation to it. However, there is no harm in the introduction of a bougie, but I would not rely on it as an important resource. Change of air, and improved appetite with its consequences, have cured, in a short period of time, many a case that resisted ordinary treatment, of which I could quote you many examples. There remains one subject on which I wish to say one word.

Applications are frequently made for the purpose of ascertaining at what period of the disease it ceases to be communicable. I recommend you to be most cautious how you commit yourselves on this head, by which, in case of failure, you render yourselves morally responsible for whatever consequences may ensue. In truth, we know nothing about it. What is communicable to one person, is incommunicable to another; and so long as we have no certain evidence by which to draw the line, it is better to adopt the alternative of declining an opinion altogether, or of leaning to the side of good morals, by declaring that, so long as discharge exists, there is no exemption from the liability to communicate it.

In the preceding lectures on the venereal disease, gentlemen, I have endeavoured to introduce for your future consideration, the most important features of each variety, with their most eligible treatment. If a statement of my own opinions has predominated, it has not been made without referring you to other, and far more extensive sources of knowledge, and among which the most unerring, the most practical, and the most indispensable, to us all, is the folio edition of the book of Nature. This I strongly recommend you to read, mark, and attentively study.

OBSERVATIONS ON COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

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(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 419.]

III.—INJURIES OF THE HEAD.—ON THE ELEMENTARY FORMS OF INJURY AND THE CLASSIFICATION OF THEIR EFFECTS.

Concussion and its subsequent Effects.—The different nervous centres affected.—Varying actions of the iris.—Lesion by concussion not common.—Stertor: its indications.—Classification of Mr. Abernethy—only different stages of same degree.—How to estimate the different degrees.—Effects of concussion—coma occurring some time after, not a sign of extravasation or effusion frequently.—General error on this head.—Case in proof.—Consequences—their degree or order cannot be predicated from knowledge of the injury.—Cases.—Dispersed or distant effects of injuries of head.—Cases.—Permanent irritability of fibre.—Most common consequences of concussion.—Cases.—Inflammatory effects of concussion without intervening coma.—Cases.

In pointing out the best mode of observing the various effects of injuries of the head, and in classifying them according to the peculiar nervous system through which they were chiefly manifested, I have already sketched, and to a certain extent defined, this class of accidents. You are thus prepared for a more detailed inquiry into the distinctive features of each particular form, and its appropriate treatment.

I have defined concussion to be "any vibratory shock or jar, whether produced by direct violence to the head, or indirectly through any other part of the frame; producing lesion of function or structure in the brain."

These lesions, both of function and structure, are of many kinds as well as degrees, and at the commencement we are involuntarily led to inquire, in what does concussion materially consist, or, in other words, what effective or material alteration of structure does it produce? The answer is, none perceptible; we know it only by the outward manifestations of disturbed function in the subdivisions of the nervous system.

If the shock has not been very violent, the cerebral system alone suffers; there is loss of consciousness, sensation, and voluntary motion simply; or even less than this may exist—only a mere sensation of giddiness and obscurity of vision, with an equally partial loss of consciousness, sensation, and voluntary motion, followed on returning power by sickness; involving by that act the excito-motory system through the par vagum and motor nerves from the medulla.

If the concussion be more violent, the loss of consciousness, &c. is not only complete but of long duration; the cerebral is not the only system affected, but simultaneously the excito-motory; there is more or less relaxation or paralysis of the muscles guarding the orifices; the glottis is no longer held widely open, and there is some difficulty of breathing in consequence. Retention of urine, from loss of sensibility in the mucous membranes of the bladder; a languid, slow, and laboured pulse, marking depressed power of probably all the nervous centres, of which the coldness of the extremities may be considered as an indication and consequence. The pupils are generally more or less dilated, the sphincter of the iris being equally relaxed, the sensibility of the retina impaired; and there may or may not be contraction under a strong light, evincing either the total insensibility of the optic nerve in its expansion, or only impaired susceptibility to stimuli.

The most serious degree gives abolition of cerebral functions; nearly complete paralysis of the excito-motory; deficient secretion and nutrition, equally marking the impaired and disturbed functions of the sympathetic or ganglionic. In this degree of concussion, then, there is neither cerebral sensation, volition, nor motion; there is stertorous and laboured breathing; the glottis, far from being held widely open, is allowed to drop, and nearly entirely close the opening into the trachea; widely and permanently dilated pupils; the retina totally insensible to light; paralysis of the sphincters of the anus and bladder; involuntary discharge of fæces and, at a later period, of urine; laboured (often feeble) and very slow pulse; diminished secretion from the liver, bowels, &c., marking the impaired action of the whole ganglionic system.

I have said the pupil, in these cases, is generally dilated; but my colleague,

Mr. Dalrymple, has related to me several cases which have come under his own observation, where the pupils have been strongly contracted. This may be explained in several ways:—1st. The contraction of the iris on the application of any external stimulus, such as light, depends upon the sensibility of the optic nerve; the retina communicating the impression from the eye to the brain, when, by the reflex motion so constantly developed in the spine, the motor fibres of the iris are suddenly acted upon and suddenly contract, to exclude the painful stimulus. If concussion has not so affected the brain, or such part of the brain, as to produce insensibility of the optic nerve in its expansion, there will not of course be dilation, but, much more naturally, contraction. On the other hand, although the motor fibres may not be excited by any stimulus of light, owing to the total insensibility of the retina, yet, in consequence of the injury, some internal irritation of the root of the first division of the fifth (from whence, and filaments of the motoris oculi, the ciliary ganglion and nerves arise), may produce precisely the same effect (contraction), in spite of the total insensibility of the optic, from whence, by the reflex function, it usually derives its stimulus. This is far from being a common occurrence; but I have myself, in more than one case, witnessed these anomalies, and it is right you should be aware of them. I may not have given you the true explanation, but such seems to me to be the most natural.

But to proceed with concussion, and the more obvious and common effects. If there be concussion simply, it often leads to no other effects than these derangements of the actions of one or more of the nervous centres; the brain seems gradually to recover; the excito-motory system regains its permanent power over the sphincters and orifices; the glottis is held open; the stertorous and laboured breathing disappears; the iris becomes more natural. The patient, imperfectly conscious, may be partially roused by a loud voice; sensation and voluntary motion returning in nearly the same proportion. The pulse, still slow, rises; the functions of organic life, and of the excito-motory system, cease to be disturbed; those of animal life, or of the cerebral system, alone remaining more or less affected: and now inflammation of the brain or its membranes may be looked for, and it generally supervenes with a violence proportioned to the original injury.

I have not observed, nor can I concur in the opinion of Sir Astley Cooper, that a common effect of severe concussion is lesion. That this does occur occasionally, of course, cannot be denied, but I confess I think it exceedingly rare.

Stertorous breathing has been hitherto, and very erroneously, considered as a distinctive mark of compression, and not a symptom of concussion; but it occurs in both, and is merely indicative of a *degree* rather than a *kind* of injury. It indicates the implication of the excito-motory system—the relaxation of the sphincters—the stopping of the glottis. If the par vagum in addition has any thing to do with laboured breathing, the indication is the same as regards the implication of another system besides the cerebral.

Many cases of very severe lesion and compression occur without any stertor, the mischief or injury apparently being confined to the cerebral system. In a case of very extensive extravasation, tearing through a portion of the cerebrum, the details of which I will give hereafter, "there was no stertor," and the fact was thus distinctly marked during the patient's lifetime. In another case of pure ramollissement, to which I shall also refer later, there was distinct and loud stertor for many hours.

Thus neither does the presence of stertor certainly indicate compression, nor its absence prove that no such state exists. I repeat it is an evidence of degree when the injury is in the brain, rather than of kind, and may occur in all forms.

Mr. Abernethy has given a classification of different degrees of concussion, but it is in effect only an arrangement of different stages of one degree, which is not quite the same thing; indeed, it is essentially different. It is of importance to be able to trace the different degrees as well as the different stages of the same degree.

These different degrees are to be estimated, first, by more or less complete abolition of the cerebral functions; perception, volition, and motion, and the time which such state endures. Secondly, by the degree and duration of any injury, disturbance, or loss of power to the excito-motory and to the ganglionic system; and this mode of

appreciation and diagnosis applies equally to all the forms of injury of the head which I have enumerated, and is the only sure basis on which to found a diagnosis.

The most invariable consequence of all severe injuries to the head is concussion. I conceive it of the greatest importance to define in what this consists, and what are the effects which may be truly traced to it. The four elements of head injuries I have stated are, concussion, compression, lesion, ramollissement; and any or all of the three latter may be effects of the first. In this order they are best considered. Earliest in order of these effects is, a frequently-recurring coma, supervening an hour or two after a concussion, though not at first, without any perceptible compression or lesion of structure otherwise to account for it. A question suggests itself—

"May not concussion lead to a subsequent comatose state, not depending on pressure or lesion, or any perceptible alteration of fibre or structure, an effect of concussion simply and only?"

The frequency of a comatose state supervening shortly after the shock, but not at the time, gave me this impression; but on careful investigation I failed in satisfying myself of the soundness of such a conclusion; but I succeeded in assuring myself, that the drowsiness, lethargy, or stupor, thus supervening, was *not* the result of compression, as that term is usually understood.

These cases do not admit of explanation by ocular demonstration, for either the patient gradually recovers, leaving us in doubt whether he recovers from mere concussion, or by the absorption of matter or other fluid which might have caused pressure; or if, on the contrary, he dies, there is such extensive disorganization or mischief, that the post-mortem evidence still fails to decide the question.

Close observation, and the fair use of our reasoning faculties, will often surmount greater difficulties than these. Attention to many such cases showed me, before long, that this supervening comatose state certainly did not arise from any pressure by effused fluid or coagulum, still less by formation of matter; first, because it came on too suddenly; and secondly, it might by treatment be as promptly dispelled. Absorption of any matter effused, secreted, or extravasated, could not possibly be the agent or mode of relief.

I conceive this effect may arise from the pressure of turgid and over-distended vessels throughout the substance of the brain—and the prompt relief, although often only temporary, produced by copious bleeding, further confirmed me in this opinion—or otherwise, the fibre may be so debilitated in its power of resistance, that it will not bear the pressure of even the normal quantity of blood in its substance: in either case it would be a case of compression; but compression not as it is usually understood or defined, nor possibly even congestion.

The following case bears upon this point:—

Case, *showing the Secondary Coma of Concussion by pressure from fluid within the vessels.*

Philip Thorne, æt. 24, on the 16th of March, 1837, walked into the hospital from the field, and conversed intelligently for some time after he was placed in the ward; he had been struck by a musket-ball on the os frontis, which was fractured. Soon after, he became quite comatose. Pulse slow and weak; surface pale and benumbed. His head was shaved; cold applied. About nine in the evening a small arterial branch bled very freely, which speedily relieved the appearances of compression, and the next morning he was free from all bad symptoms.

Spoon diet. Sharp purgative of calomel and jalap administered.

3rd day there was a little pain in the head; pulse slow.

4th.—He said he felt occasionally light-headed; pulse rather jerking, but easily compressed; secretions free from the bowels.

5th—No change.

6th.—Unusually sluggish and languid pulse, 56; complains only of local pains; sore unhealthy; bone denuded beneath.

7th.—Pulse 52, same character.

8th.—Right pupil slightly dilated; pulse 48, soft and irregular; very little pain, and merely local. During this period a saline mixture cum Ant. tart. was directed for him.

9th.—Says he feels perfectly well; all natural but pulse, which, up to the 15th, remained at 52, during which time

he continued rapidly improving. It then became 70, regular, and perfectly natural.

He was discharged on the fourth month perfectly well, save that exposure to the sun, or much exertion, brought on pain and giddiness in the head.

This case then shows that a blow of no common violence did not produce any loss of consciousness, or serious inconvenience in the first instance; that in a few hours complete coma supervened, and was almost instantly relieved by loss of blood; the same state, in a lesser degree, returning the second day after, and the pulse continuing to the fifteenth day to indicate disturbance of the circulation, but in no other organ or division of the nervous system.

It would be easy to select many cases where stupor supervened, sometimes after concussion and not at first, as readily relieved by bleeding, returning again, and that two or three times in the treatment of the same case; but as they are cases complicated with lesion of brain, &c., they give less simple, and therefore, perhaps, less conclusive evidence on the particular points under discussion. This tardy or "secondary comatose condition," as I have termed it, quickly relieved by bleeding, again recurring, and again relieved, it must be evident, is the result of the shock, the concussion. It does not occur by any extravasation of fluid; and if from pressure, apparently can only arise from the pressure of fluid in the blood-vessels, whether in ordinary or extraordinary quantity.

That this distinction in the causes of comatose state should be established is most important, pointing at once to the best and only remedy, and adding greatly to our knowledge of the true causes of symptoms in these complicated injuries.

The first most obvious and most general effect of violent concussion is, total or partial loss of consciousness instantly following the blow. In this symptom there is no variation but in degree; it is sometimes accompanied with disturbance, not only to the cerebral system and animal life, by which we have loss of consciousness, sensation, and motion, as I have shown, but to the excito-motory or true spinal, and to the ganglionic or sympathetic—the systems of organic life, and the functions of those organs essential to existence, are disturbed, and more or less impeded. Then there is impeded, laboured, or stertorous respiration; there is laboured and slow pulse, disturbed function of liver and kidneys—all the vital organs suffering under depression, derangement, or destruction of their functions.

The first degree of injury affecting animal life only; the second, the excito-motory presiding over the involuntary motions; the third degree involving organic or vegetative life in addition to the other two.

By clearly defining this distinction we at once obtain a scale by which, with very tolerable accuracy, we may measure the degree of violence in the injury, for even in the order in which the functions are impaired we may further obtain valuable guides for diagnosis. The heart seems to me always the first organ disturbed in its functions after the cerebral; next in order the respiration, depending chiefly on the reflex function of the excito-motory system; and it requires a third or greater degree of injury to involve the sympathetic, nutritive, and secretive.

Thus the pulse, in its slow, laboured, and sluggish beat, will give indication of the heart's depressed power and impeded function, while the respiration is free, and the bowels and kidneys act naturally.

On the other hand, the disturbed functions of the excito-motory in respiration, always implies the heart's disturbed function, or immediately involves it, for I have never observed the former to exist without the latter.

As the liver and kidneys will give but slight indication, or none at all, of disturbed functions, even when the two former derangements are sufficiently marked to be distinct, so it seems natural to place them in the last order of functions disturbed, suffering, in fine, only from a greater degree or amount of injury. The skin, in the last stages, leading to death, often acts inordinately, producing a cold, copious, and clammy sweat.

In the case related (*Thorne*), it may be seen, that although the heart was seriously disturbed in function, and remained so for fifteen days, yet the respiration did not sympathize nor become implicated. The liver and kidneys never ceased their action, and answered as usual to the stimuli of purgatives, &c. administered.

Let us proceed to another point of

interest, viz. to the question of how far the consequence of the relative degrees of injuries, even when these are satisfactorily ascertained, can be predicated. This, I think, is very distinctly answered by two closely parallel cases, which I will relate, to place this subject in a strong light.

Two Cases of precisely parallel injuries producing different consequences.

Edward Elam, æt. 23, on the 16th of March, 1837, was struck by a musket-ball, which entered two inches above the left ear and passed down to the occipital bone, abrading the periosteum, and making its exit behind the ear. Loss of hearing on that side immediately ensued. He was ordered a dose of cal. cum jalapæ, and cold lotion to the head. About ten in the evening pain and heaviness of the head had come on, with some febrile excitement.

V.S. ad ℥xij.

Next day all these symptoms had been relieved.

No further return of pain or heaviness, except that he had a troublesome cough, which, shaking him, always caused pain.

On the 20th day he had fully recovered; his hearing had returned. He said the left eye was a little injured in power of vision; both, however, presented the same appearance; and he was liable to vertigo if he walked in the sun.

Case II.—Sergeant Flynn, æt. 45, on the same day was struck by a musket-ball, about three inches posterior and superior to the left ear: the ball merely impinged, abrading the periosteum.

Pain in the head followed on the second day; somewhat relieved the next day, after having been freely purged and a cold lotion had been applied to the head. He continued improving for some days, but on the 10th complained again of headache, with a furred tongue; pulse exceedingly rapid, calculated at 200.

V.S. ad ℥xx. Pulv. Purg.

Next day much relieved again; the pain in the head slight; tongue still furred; bowels freely opened; pulse reduced to 95.

12th day.—An incision was carried through the wound to the bone, and next day there was decided improvement.

14th.—Headache increased. Twenty leeches were applied to the temples, and they bled freely; purgative also acted well.

15th.—Relieved.

16th.—Intellect slightly disturbed. Cupped to twenty-four ounces; free secretion kept up from the bowels; again relieved, and up to the 26th day he seemed steadily improving, when he felt increased weakness, inability to sit up, and a general sense of *malaise*.

On the 41st day he vomited a considerable quantity of bilious matter; mind rambled a little during the night; bowels open; pulse weak and *slightly intermittent*.

Emp. Lyttæ Nuchæ.

No puffiness or erysipelatous inflammation of scalp, but vital powers seemed sinking. From this time to the 48th day, when he died, he was much harassed by diarrhœa, but retaining his consciousness and power of answering rationally to within a few hours of his death.

Post-mortem.—Body much emaciated. On removing the calvarium the following appearances presented:—The dura mater was considerably thickened, and there was deposition of serous fluid between that membrane and the arachnoid. An absorption of the inner table had commenced beneath the point where the ball had impinged, and the part was covered with a thin layer of matter; this was close to the squamous suture. A portion of the dura mater, extending from immediately beneath the seat of injury for an irregular circle of from two to three inches in diameter, presented an appearance like that of a crab's back as to mark and colour—was of a thicker texture than the rest—and at its inner surface gave marks of inflammation. These effects may be observed in the preparation before you. On cutting into the substance of the brain, it was found generally vascular, freely speckled with blood, and a considerable quantity of turbid fluid lay in the base of the skull, descending into the theca vertebralis. The right hemisphere of the brain was more generally injected with blood than the left. Both lateral ventricles were distended with turbid fluid.

The lungs were found studded with tubercles, and on the right side the pleura costalis and pulmonalis were closely adherent.

The liver was very much enlarged, and filled with abscesses containing an extraordinary quantity of pus. The alimentary canal presented no unusual appearance.

Here, on the same day, two as nearly similar injuries presented themselves as could have been inflicted, had similarity been the design. The one runs a course of twenty days, presenting the usual symptoms of a not very violent concussion; the other induces absorption of bone, inflammation and disease of membranes, injection of the brain, effusion of fluid, and if not tuberculated lungs—on which, probably, some of the pernicious influence had been expended—extensive suppuration in the liver.

If I had merely wished to shew the different results of two perfectly similar injuries, it would not have been necessary, however, to go so much into detail. I wished to establish another class of the effects of injuries of the head, and probably of concussion chiefly—viz. what I shall term its "dispersed or distant effects on the system;" and before I enter further into this subject, it shall be illustrated by two more cases.

Second Case, shewing the dispersed or distant effects of Injuries of the Head.

M'Lellan received in the night of the 26th December, 1833, two wounds on the scalp from a bayonet, one of which divided some arterial branch, producing considerable hæmorrhage. At the time of receiving the wound he was intoxicated. The ruptured vessel was so troublesome in its frequently recurring hæmorrhage, that it was secured by ligature two or three days later.

His case attracted little attention afterwards, there being no prominent symptoms. On January 3 he complained of worms, saying he was much subject to them; and small doses of the ol. terebinth. were ordered, which seemed to develop considerable irritability of stomach; and observing him attentively on the 5th, the eleventh day after the injury, I found some febrile action of an obscure character, a yellow tinge of the eyes and skin, and evidence of a dogged comatose disposition.

Cold applications were ordered to the head: five grains of calomel, and fifteen of jalap, which was followed some hours after by a dose of castor oil, and a few drops of tincture of opium.

On the succeeding (12th) day the fever was increased, tongue much furred, and there was great pain in the head.

13th. — Tongue still foul; bowels freely opened; skin hot, but moist; full pulse; pain of head unabated.

15th.—After a restless night he complained of general pains; the left thigh and knee much swollen and painful; tongue brown and dry; skin moist, yellow; pulse feeble; urine in fair quantity and high coloured; thirst urgent.

16th.—He died.

Post-mortem. — There were two wounds on the head, one of which was situated near the middle line, and about midway between the frontal and occipital protuberance; and the other on the middle of the temporal arch. Both of an unhealthy appearance, but not puffy. The cranium was denuded of its periosteum to a small extent, in the situation of the two wounds.

On the external surface of the dura mater, and along the course of the left middle meningeal artery, there was a good deal of healthy-looking matter. This membrane throughout was very vascular, and thicker than natural, but more particularly so along the course of the middle meningeal of the left side. The glandulæ Pacchioni in the superior longitudinal sinus, corresponding with the situation of the wound, were much enlarged, red in colour, and very gritty in consistence. At the situation of the wound, near the median point, the inner surface of the cranium to a small extent was much whiter than the surrounding parts, and on the dura mater there was lodged some little pus.

The same appearances were seen internally at the situation of the wound on the temporal arch; but besides, there was here situated, between the dura and pia mater enveloping the brain, about two tea-spoonfuls of well-formed purulent matter. The substance of the brain was not affected, and in a healthy-looking state.

The liver was much enlarged, gorged with blood, of a deep red colour. In its

substance were found a great number of tubercles, and one large abscess occupied the greater part of the right lobe. In various parts the cicatrices of old abscesses, of a small size, were seen. The lungs, perhaps not very minutely examined, seem by my notes to have been considered healthy.

In this case the concussion was probably only very slight, although I suspect he was thrown down also in the scuffle, during which he was wounded.

Third Case of dispersed or distant effects of Injuries of the Head.

William Mead, æt. 20, a tin-plate worker, always had good health, a stout, muscular, middle-sized man, of lymphatic temperament, on the 1st of August, 1836, was struck by a musket-shot behind the left ear, which passed downwards and forwards to a short distance below the angle of the jaw, from whence it was cut out. Mastoid process considerably injured, the ball having shattered it in its course. Some hæmorrhage occurred from the wound made by the knife; suppressed by a pledget of lint, bandage, and cold lotion.

3d day.—Had slept badly; throbbing pain of ear; considerable swelling of parts; pain of the left side of the neck, about the centre, over the carotid artery, felt on full inspiration; some febrile action and diarrhœa.

The febrile action continued high and severe, but with no head symptoms, for the succeeding fifteen days, when the pulse gradually lost its sharp and thrilly beat, became less frequent; tongue pale or foul; when gradually his appearance indicated great heaviness.

On the 24th day it was remarked that for some short time he had continued in a dull, heavy, but weak state, scarcely answering when spoken to, and without amounting to stupor there was an evident dulness in his faculties; anxious expression of countenance, although without any pain of head, and with the wound healing; pulse low, but still febrile.

Again on the 31st, I made the following note, endeavouring accurately to describe his state:—"His general appearance conveys an impression of drowsiness and heaviness; pupils are natural, and have lost none of their contractile power. The wound made to extract the ball is healed, and where it entered there is little more than a pin-hole. Diseased bone is felt beneath; pulse hard, and rather sharp and harsh, 94; tongue pale, and slightly loaded; bowels acted upon twice yesterday; his chief complaint is "right downright weakness;" notwithstanding which I ordered a small bleeding at night.

On the 44th day, without much previous warning, a large collection of matter was discovered extending from the lumbar region over the hip and down to the middle of the thigh. It was opened, and two pints of matter discharged.

He was ordered a good diet, a few ounces of sherry daily, and bark.

For three days the discharge continued excessive, while carefully bandaged with compresses; it suddenly closed, and next day reopened and discharged three pints of matter; the succeeding day the same quantity.

On the 50th day this enormous abscess was much diminished, and the discharge, which amounted to several pints daily, very suddenly became reduced to as many ounces. The pulse became full and stronger; tongue white, but the heaviness of the head better.

On the 53d the sides of the abscess had adhered, and it became obliterated.

On the 56th another deep-seated abscess under the deltoid muscle was discovered and opened, and for five days about half a pint of matter was discharged daily.

On the 62d day very little matter was discharged, but head symptoms, giddiness, and confusion, came on. A large blister was applied to the neck. In three days more this second abscess healed up, and he had a good appetite and aspect.

On the 66th day he seemed convalescing rapidly; but two days later he again complained of dizziness and pain of the head. The blister was repeated.

From this period he had constant returns, in greater or less force, of pain and giddiness in the head.

Dec. 22d.—Nearly five months after he was wounded he was discharged to his duty. All pain and giddiness, as a constant symptom, had entirely disappeared, and he only felt uncomfortable on a change of weather, but said he was quite well enough for duty, and was anxious to join his regiment. There

was still constant and considerable discharge from his ear, but no pain. His face was rather stultified, and his mouth distorted on the side where he was wounded he said, less than it had been. The wounds were perfectly healed, and the surrounding parts looked sound and healthy.

This is perhaps the most interesting case of this last series, for the relative action of the head and the distant disease seems more clearly established; and I think there can be no doubt that the cause of these large abscesses and formations of matter was the injury of the head, which seemed to require for its relief the vast drain on the system which was thus established. One thing was very clear, that the head was signally benefited by the immense discharge.

Here concussion rather shews its effect on the whole system, or on remote parts, than in the head itself; for the febrile action set up in the first instance was general, and but little implicating the head.

Consideration of these effects shews that all subsequent to concussion require most careful watching, and can rarely or never be safely prognosticated: they are very various, not only in relative degree to that of the injury, as has been already demonstrated, but in character and nature.

The various characters of its effects, it has appeared to me, might be thus defined:—

1. It produces an irritability of fibre, rendering the brain morbidly sensitive to all stimulus; and this, I am led to believe, is by far the most common effect of serious concussion. Any excitement—much exertion of mind—exposure to the rays of the sun—spirituous liquors, &c., quickly producing headache and giddiness: if persisted in or carried to excess, violent disease in some form is developed in the brain. I have almost invariably found this to be one of the effects, more or less permanent, of serious concussion, and often the only one remaining after treatment.

The following are instances selected from a large number of parallel cases. The one already given of Thorne equally bears upon this point:—

First Case of Concussion, producing as a more or less permanent effect, irritability of cerebral fibre, shown by increased and morbid susceptibility to impressions.

James Boase, admitted October 1st, 1836. A musket-shot had struck the outer angle of the forehead, above the eyebrow on the right side, and fractured the frontal bone. The ball fell after it struck. No symptoms of concussion or other internal injury to brain, during the first three days, made their appearance.

Sulphate of magnesia, cold lotion, spoon diet, were directed.

On the 4th day uneasiness felt in the head; pulse small, but not frequent; bowels open; skin acting.

Sulphate of magnesia mixture continued.

Next day he had recovered, and between this and the 17th day pain of head recurred at intervals, marking, apparently, slight irritability of fibre.

Free from all complaint when discharged on the 18th day.

Second Case of Concussion, &c.

William Wilson, æt. 34, was struck the same day, at exactly the same point, but on the opposite side. The outer angle of the forehead on the left side was the seat of injury, and the bone was slightly fractured. Free from all bad symptoms; same treatment as in the first.

Second day, a little pain of head; third, easy; no fever; tranquil pulse.

On the fourth day complained of a great deal of pain and uneasiness about the head.

A sharp purgative of Cal. and Colocynth, followed by Magn. Sulph. and Ant. Tart.

On the succeeding day was found to have passed a restless night; eyes heavy; pupils dilated; pulse slow, laboured, and full in volume. Bowels had been freely purged.

V.S. ad ʒxvj. Emp. Lyttæ Nuchæ.

6th day.—Little change; no sleep, but feels heavy; pupils dilated, and vision of left eye (below the wound) impaired.

7th.—Improved a little; less heaviness of head; bowels open; pulse calm and soft; tongue clean; thirst; pain in the head still; eyes suffused.

Repeat the blister.

8th.—Pulse more sluggish. Pain continues.

9th.—Better; less pain and heaviness of head; pupils contract slowly; redness of eyes continues; pulse soft, and nearly natural.

10th.—Upon the whole feels better. Pupil of left eye widely dilated—less redness. Pulse soft and tranquil; tongue moist and clean; skin cool; extremities warm.

From this period to the end of the third month, pain of the head, conjunctival disease, sluggish action of bowels, and impaired vision of left eye, continued. He was at this period sent home, when I made the following note of his state:—

"Dec. 31st.—Invalided home. He complains of constant pain in the head, more or less severe. Injury to the sight of the left eye—a sparkling before it. Pain shooting from the point where he was wounded, across the forehead; giddiness. Both pupils appear more dilated than natural. No other indication of disease or variation from healthy state. His tongue red, clean, and appetite good. Pulse 92, full, and regular. A trifling cicatrix marks where the ball struck and apparently glanced off.

This case is an example of a high degree of irritability of fibre, and to this I refer the almost unceasing and long-continued pain of the head, without any other indication of disturbed health. Here no unusual stimulus was required to produce the headache, &c.

Not to multiply cases, the one already given of Thorne (p. 446) may be taken as a good example of an intermediate degree between these two: the first of which being an instance of this irritability in its slightest form, the second in its highest degree and worst shape. In the case of Thorne you will remember that this peculiar symptom or effect was only developed by the application of some stimulus, although the brain remained permanently susceptible to a morbid extent.

Continuing the classification of the effects of concussion, there sometimes will result inflammatory or mixed inflammatory and irritable symptoms, without any intervening coma, stupor, or loss of consciousness, of which I will give you an example. Let me observe, first, that this effect collaterally proves the fact I have assumed, that the secondary coma (*i. e.* a violent effect) may proceed from irritability, a state of cerebral fibre induced by concussion; although that concussion may not, in the first instance, have produced lesion of functions, organic or animal.

Case of Concussion, inducing Inflammatory Effects, without any intervening Coma from the Blow.

George Davis, æt. 30, of general good health, middle sized, of dark complexion, was struck, on the 1st of October, 1836, by a musket-ball, which penetrated the face, fractured the zigomatic process of the malar bone on the left side, having entered over the centre of the mastoid process. Pulse unaffected on admission.

8 P.M.—Asleep, and seems perfectly easy.

On the second day complained of great pain in the head. Pulse hard, and wiry; bowels constipated.

V. S. ad ʒxvj. Pulv. Purg. st.

On the fourth day the bowels had been acted upon freely; he felt easier, but complained of pain of forehead, with a low pulse.

C. C. Nuchæ, ad ʒxij.

5th.—Pain of forehead; restlessness; flushed face; eyes bright, and excited in expression.

V. S. ad ʒxx.

6th.—Great pain of head, with giddiness; bowels constipated.

Emp. Lytta Nuchæ.

These symptoms, with febrile action and pulse, continued to resist vigorous antiphlogistic measures until the 13th day, when he began to feel somewhat relieved. By the 17th he was entirely free from pain, and seemed convalescent.

On the 26th he had another attack. On Nov. 9th and Dec. 19th again.

Dec. 31st.—He was invalided home, having entirely lost his hearing on that side, in apparent good health, and without injury to the motion of the jaw.

Here, in the first instance, as the consequence of a severe shock or concussion, for to this must be attributed the obstinate and troublesome sequences, we find no stupor, no drowsiness, but a febrile inflammatory action, chiefly developed in the head; and the frequent recurrence of which would seem most naturally to depend on that irritability of fibre which I have endeavoured to shew is a very common effect of concussion.

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ON THE

DIURNAL VARIATIONS OF THE PULSE.

By Wm. Augustus Guy, M.B., Cantab.

Professor of Forensic Medicine, King's College, London.

To the Editor of the Medical Gazette.

Sir,

The following observations on the diurnal variations of the pulse were originally intended to form a part of my paper published in the last number of the Guy's Hospital Reports. If they seem worthy of a place in your valuable journal they are at your service. Almost all that is yet known of the subject is here brought together, and some of the facts are new to the English reader.

I have the honour to be, sir,
Your obedient servant,
William Augustus Guy.

15, Bloomsbury Square,
June 10th, 1839.

Before the publication of Dr. Knox's Essay*, in the year 1815, it was the received opinion that the pulse is more frequent in the evening than in the morning. This opinion was not without support from facts, though it rested on a basis far too narrow to support a general theory. The following quotations will show how implicitly the facts, which I shall presently adduce were received as evidence that the pulse becomes more frequent as the day advances. Haller† says, "Matutino tempore, quando a salubri somno expergiscimus, et primus ille ab operimentis natus, nimius que calor dissipatus est, pulsus in dato tempore omnium paucissimi solent esse. Consentiunt hic Cl. Rye et Thomæ Schwenke, viri Ill. et mea experimenta." Gregory‡ is more minute in his description. He says, "Horis matutinis, quum primo expergiscimur, pulsus rarus est, paulatim frequentior evasurus propter multa quibus obgicimur irritamenta; post cibum, excarnibus imprimis, aut acrem, aut conditum, intenditur; sub vesperem levis quasi febricula accedit, cui requies et somnus remedio sunt. Hæc, in sano homine vix observanda, in ægroto, febricitante, hectico præsertim, satis manifeste se produnt." Zimmerman§ states, that in all subjects the pulse beats more slowly in the morning than at night. Hufeland‖ speaks of a diurnal evening-fever, accompanied by increased frequency of pulse. During sleep this fever subsides, and the pulse, in common with the other functions of the body, is restored to that quietness and regularity which it had lost during the excitement of the day.

Quetelet** says, that in the evening we usually find ourselves a little more excited than in the morning; and the action of the heart, as well as the respiration, takes place more rapidly. To show that this opinion still prevails among physiologists, I may quote the words of one of the latest writers on the pulse. Dr. Bostock†† says, "It is generally admitted that the pulse undergoes a kind of periodical revolution during the course of the day, and this, independent of any of those circumstances, external or internal, which might be supposed to affect it. This subject has been attended to by various physiologists, and among others by Bryan Robinson and Falconer, who have given us tables of the results of their observations. We are, however, scarcely able to draw any conclusions from them, except that the pulse is less frequent in the morning, and that it has a general disposition to become more frequent as the day advances; but it appears very difficult, if not impossible, to determine in what degree the increased quickness is to be attributed to food, exercise, or to other exciting causes."

Though the majority of authors have contented themselves with stating that the pulse is more frequent in the evening than in the early part of the day, there are not wanting those who describe the diurnal variations of the pulse with still greater minuteness. Fodéré‡‡ says, "Relativement à la différence du jour de la nuit, on remarque que le pouls de l'homme adulte bat de

* "On the Relation subsisting between the time of the day and various functions of the human body; and on the manner in which the pulsations of the heart and arteries are affected by muscular exertion. By Robert Knox, M.D., Edinburgh." —*Ed. Med. and Surg. Journal*, vol. xi. p. 53.

† Opera, Physiologica, sectio. 2, § xvii.

‡ Conspectus Medicinæ Theoreticæ, Cap. XV. cccliii.

§ On Experience in Physic, vol. i, p. 250.

‖ Macrobiotic, p. 53.

** Essai sur l'Homme Moyen, tome ii. p. 88.

†† Cyclopædia of Practical Medicine, art. Pulse.

‡‡ Essai de Physiologie Positive, tom. i. p. 190. Quoted by Knox.

60 à 65 fois par minute, au commencement du jour, et qu'il va continuellement en augmentant jusqu'à battre 80 fois dans le même temps, chez les plus excitables, sur la fin de la journée; dans la nuit, les pulsations diminuent de nouveau, jusqu'au matin, on elles se trouvent revenues insensiblement au nombre de 60 à 65." It is clear that this statement is based entirely upon Bryan Robinson's table. According to Double*, the pulse in the morning is tolerably quiet; at two o'clock observably quicker; from that hour it diminishes in strength and frequency till eight in the evening, and then again increases till bed-time. Cullen speaks of an acceleration at noon, and another in the afternoon.

I know of no observations on healthy persons which bear out these minute statements of Double and Cullen. In all probability their opinions were founded on the analogy of febrile diseases, in which some such diurnal changes, at least in the sensations and general appearance of the patients, take place. Although it is confidently asserted that the pulse, in febrile affections, is more frequent in the evening than in the morning, I know of no author, except Fordyce, who has been at the pains to put the general opinion to the test by actual observation, and his experience is opposed to the prevalent belief. He says†, "In rheumatic and other inflammatory fevers, I have examined the pulse by the watch two or three times a day, for seven, fourteen, seventeen, twenty-one, or even more days together, without finding it vary three stokes in a minute, not even at noon and midnight, when sensible alterations have been said to be observable in the pulse." It is true that in health, as well as in disease, there is an appearance of febrile excitement, accompanied by febrile sensations towards evening. These sensations I have often myself experienced, combined with flushing of the face and considerable cerebral excitement, but have been surprised to find the pulse not more frequent than in the more calm and tranquil states of the system.

There is no doubt that sensations such as these, probably experienced in a greater or less degree by healthy persons in general, and constituting the "levis febricula" of Gregory, and the "abendfieber" of Hufeland, have led to the belief that the pulse partakes of the general excitement of the system, and have caused greater confidence to be placed in the few observations which we possess than, on careful examination, they are found to justify*.

That no such variations as those described by Cullen and Double take place in health, is sufficiently proved by Knox. He says†, "Amidst many hundred experiments, performed under a great variety of circumstances, I could never perceive any such phenomenon. The time of the day at which the first spontaneous acceleration is supposed to happen is noon. My own pulse never shewed any symptoms of such acceleration, but, on the contrary, always diminished in velocity. Thus—

Exp.—11	A.M.	72
12	noon	71
1	P.M.	65
1½	P.M.	64

The other paroxysm, according to the same author (Cullen), occurs in the afternoon, and that, too, totally independent of any excitement by food, &c. This opinion is equally erroneous with the former.

Exp. 1. —	3	P.M.	68
	4		66
	5		64
	6		62
Exp. 2. —	3½	P.M.	67
	4½		67
	5		64
	5½		63
	6		63
	6½		62
	7		62
	7½		60
	8		58

These observations of Knox, coupled with others to be presently adduced, prove that there is no foundation whatever for the theory of Cullen and Double; we may therefore turn from these supposed variations to the more tangible question—does the pulse increase in frequency as the day advances? The earliest observations, made with a view of determining this question, are those of Bryan Robinson, and they form the principal authority to

* Quoted by Nick.
† New Inquiry, p. 76.

* Guy's Hospital Reports, No. VIII.
† New Inquiry, pp. 53, 54.

which subsequent writers have appealed. The observations of Falconer are less known, and more rarely quoted. The following table from Bryan Robinson* "contains the number of pulses in a minute of two healthful men, A and B, when sitting, at the several hours from eight o'clock in the morning to eleven at night. These numbers are means drawn from a large number of observations; those of A from the observations of twelve weeks; and those of B from the observations of three weeks. A ate his breakfast between nine and ten, B his before nine; they both dined together at two, at which meal B ate more plentifully than A; and they ate little or no supper.

	MORNING.								AFTERNOON.									
Hours....	8	9	10	11	12	1	2	Mean.	3	4	5	6	7	8	9	10	11	Mean.
Pulses of A	65	67	70	73	71	69	70	70	77	77	77	77	76	76	74	74	76	76
Pulses of B	66	71	72	68	69	67	67	68½	75	81	84	81	79	77	78	78	79	78

"From this table it appears that the pulse is slower in the morning than at any other time of the day; that it grows something quicker before breakfast, and a little more so after it; that it grows slower again before dinner: and that the quickness acquired by this meal continues for about three or four hours, and then abates a little, and continues in that state, without any considerable change, in bodies which eat and drink little at night till they go to rest." The results of these observations are more generally expressed in the following sentence:—"The pulse is quicker and greater in the afternoon than it is in the morning; and from many observations, taking one hour with another of those two times, it is quicker in grown bodies, one with another, in the proportion of about 80 to 70."

These observations seem to have been made with care; they were frequently repeated, and the same posture was maintained in all. We are not informed whether or not the persons whose pulses were examined remained at rest in the intervals of the observations, or were subjected to the various excitements which occur in the course of every day. As it is not distinctly stated that the persons examined did remain at rest during the time of the experiments, there is every reason to believe that they were exposed to excitement from exercise and other occasional stimuli. However this may have been, the above table gives strong reasons for supposing that the pulse is more frequent in the evening than in the morning.

The experiments of Falconer * lend confirmation to those of Bryan Robinson. He gives a table "founded on an almost daily examination of the pulse for more than three months successively." The subject of the experiments was a male, aged 50, healthy, and of temperate habits. Breakfast was taken at 10 A.M. The time at which the other meals was taken is not specified.

8 A.M.	9	10	11	12	1 P.M.	2	Mean	3	4	5	6	7	8	9	10	11	Mean
63·5	64	66	78·9	79	68·5	67 5	69·6	69·4	74	75	71·75	74	76	85	79·5	80·5	76

Here there is an increase from 8 A.M. to 11 P.M. of 17 beats—a difference much more considerable than that of Bryan Robinson's table. But it is not stated that the pulse was always felt in the same posture, nor is the time of taking the meals, the breakfast excepted, specified. Whether, again, the subject of the experiments remained at rest, or was excited by exercise or other stimuli, we are not informed. These observations, therefore, have much less value than those of Bryan Robinson, although they confirm the result at which he arrives, and seem to justify the belief universally entertained by medical men up to the time at which Knox's Essay appeared.

The observations of Knox lead to conclusions altogether opposed to those of Bryan Robinson and Falconer. He

* Animal Economy, pp. 148-150.

* Observations respecting the Pulse, intended to point out with greater certainty the indications which it signifies, especially in feverish complaints. By W. Falconer, M.D. F.R.S., Physician to the General Hospital, Bath, 1796. p. 26.

found that the pulse, instead of becoming more frequent towards evening, decreased in frequency. The instances which Knox adduces are "taken at random from a great number of others." The sitting posture was preserved in all the observations, and the pulse was felt in the morning before breakfast, and a short time after rising from bed, and in the evening after a light supper, and generally some spirituous liquors taken, however in small quantity, and much diluted. Period, summer. Person submitted to experiment aged 22, slightly muscular and excitable.

9 A.M. (average of 18 experiments)	68·5
12 P.M. „ „ „	64·38
Difference.....	4·12

The author invites attention to the circumstance of the morning pulse being felt before breakfast, and the evening pulse after supper—the former in a tranquil state, the latter after all the excitement of the day, added to the stimulus of the meal. The following are averages of 18 experiments made after breakfast, dinner, and supper, respectively:—

After breakfast, before 10 A.M.	72
After dinner, before 5 P.M.....	74·22
After supper, between 10 and 12 P.M., generally near 12 ...	64·388

Dr. Knox remarks that though the dinner was much more stimulating than the breakfast, consisting, as it did principally, of animal food, with a small quantity of vegetables, to which porter or spirits were frequently added, whilst the breakfast was of coffee, bread, and eggs, yet the pulse after dinner was more frequent than that after breakfast by only 2·22 beats. Again, the supper was at least as stimulating as the breakfast, and yet the pulse after supper is slower than that after breakfast by 7·612, or nearly 8 beats. "The difference between the pulse after breakfast and after dinner would have been 10 or 15, had the case been reversed; at least I am inclined to think so, from some experiments which I afterwards instituted directly to ascertain the point*."

Another average of six observations made on the author's own pulse gives still more striking results. He had walked three miles before breakfast.

After breakfast.....	79·33
After dinner	76
After supper.....	63·3

Hence the pulse was more frequent after breakfast than after dinner by 3·33; after dinner more frequent than after supper, by 12.7; and after breakfast than after dinner, by 16 beats; a result directly opposed to that of Robinson and Falconer's experiments, and nearly equal in amount.

Four experiments made in the morning, and three in the evening, on Mr. S., aged 20, in good health, and of regular habits, gave the following averages for the sitting posture:—

Morning.....	79·25
Evening.....	66·66
Difference....	12·59

The following are the results of seven series of fourteen observations each, made on the same gentleman at different times in the day. (I have omitted two observations made the one in the recumbent and the other in the erect position, all the rest being taken in the sitting posture.) Meals taken at 7½ A.M., 5½ P.M., and 8½ P.M.

9 A.M.	11	3 P.M.	5	7	9	11
94·6	82·6	74·9	72·9	73·6	71 6	65·78

Here there is a difference between 9 A.M. and 11 P.M. of 28·82 beats—a difference much more considerable than that which occurred in the experiments of Robinson and Falconer.

These observations of Knox appear to justify the conclusion at which he arrives. "If we regard," he says, "as accidental circumstances the acceleration of the pulse at various times by our diet, and that, too, according to the caprice of the individual, the pulse shall be found gradually to diminish in velocity from an early hour until midnight, and generally later." This conclusion is confirmed by a friend of Dr. Knox, who made similar experiments without communicating with him. The Essays of Dr. Knox seem to have met with little attention from the profession, and since his time little has been done either to confirm or to invalidate his observations.

Nick* is the next author who claims our attention. He made some observations on his own pulse and on that of another healthy male, which are pecu-

* Loc. cit. p. 56.

* Nick über die Bedingungen unter denen die Häufigkeit des Pulsus verändert wiud. pp. 5—13.

liarly valuable, as they appear to set the question at issue between Robinson and Falconer on the one hand, and Knox on the other, completely at rest. The following series of observations closely resembles those of Robinson and Falconer, and leads to a similar result. It shows the varying frequency of the pulse at different times of the day, under the influence of a variety of exciting causes. The observations were made upon himself, and the numbers here stated are the mean of four series made on four different days.

7½ A.M.	9	10	11	12	12½	1 P.M.	2	3	4	5	6	7	7½	8	8½	9	9½	10	10½	12
59	67	69	65	69	78	78	86	84	68	71	83	73	79	75	70	72	66	64	72	64

The observations in the following series were commenced at 5 A.M.:—

5 A.M.	6	7	8½	9	10	11	12	12½	3 P.M.	4	5	6	7	8	9	10
59	66	66	84	69	67	67	92	90	78	70	84	110	70	71	75	64

In each of the foregoing tables the pulse is more frequent at night than in the morning, by five beats. The same position of the body was not preserved in the several observations; but in the following tables this source of fallacy was excluded. The first table gives the average of three series of observations made in the sitting posture; the last, of a single series made in the same position.

Table I.

9 A.M.	10	11	12	12½	3 P.M.	4	5	6	7	7½	8	9	9½	10½
70	72	68	73	82	78	69	73	73	72	79	71	70	77	72

Table II.

6 A.M.	7	8½	9	10	11	12	12½	3 P.M.	4	4	7	8
66	66	84	69	67	67	92	90	78	70	84	70	71

In the first of these tables, the pulse is more frequent at 10½ P.M. than at 9 A.M. by two beats; in the second there is an increase, from 6 A.M. to 8 P.M., of five beats. These tables, taken by themselves, would seem to strike the balance in favour of the opinion that the pulse increases in frequency towards evening; but more careful observations, made also upon his own pulse, lead to an entirely different conclusion. During all these observations, the recumbent posture was preserved; all mental and bodily excitement was avoided; no food was taken; and the same temperature was maintained. An average of six series of such observations (from which three experiments have been omitted, as the pulse was raised above its natural frequency by smoking), give the following results:—

8 A.M.	9	10	11	12	1 P.M.	2	3	4	5	6	7
63·8	62·6	62·8	62·2	62·2	61·4	61·6	60·4	58·6	58·2	58·2	58

Here then, there is a diminution of 5·8 beats in 12 hours. A mean of two similar series of observations, made on the pulse of a healthy male, aged 32, gives a decrease, during the same period of 12 hours, of 6·5 beats; the difference in the first experiment being 3 beats, and in the second 10 beats.

These observations point to the true explanation of the increase in the frequency of the pulse towards evening, observed by Robinson and Falconer. The body, instead of remaining in a state of rest, and in the same circumstances in each observation, was submitted to various exciting causes, and the pulse betrayed the influence of these causes. Precisely the same irregularities of pulse are observable in the first tables, extracted from Nick's work, but they disappear as soon as the body is placed at rest; and all the observations are made in precisely the same circumstances. We are justified, therefore, in stating, that, in persons who remain at rest during the day, the pulse becomes less frequent as the day advances.

Some experiments made by Hohl*, with no view to the determination of the question which we are discussing, lend confirmation to the conclusions drawn from the observations of Knox and Nick. On comparing the mean of 25 experi-

* Die geburtshulfliche Exploration bey Anton. Friedrich Hohl.

ments made on the pulses of pregnant women in the morning, with a mean of the same number made on the same women in the evening, I find that the pulse in the morning is 83·28, and in the evening 80·88. The pulse, therefore, is more frequent in the morning than in the evening by 2·40 beats *. The same rule holds good in the new-born child. Thus Hohl states, that if we examine the pulse of the new-born child *during sleep*, in the morning, evening, and night, we find early in the morning a greater frequency than in the evening, and a continual diminution up to midnight †. The observations made on the new-born child hold good also with regard to the fœtus in utero. Thus an average of 25 observations on the pulse of the fœtus in utero, made in the morning, gives 138·08 beats, whilst an average of the same number of observations made on the same fœtus in the evening, gives 135·76. The fœtal pulse, therefore, is more frequent in the morning than in the evening by 2·32 beats ‡. Hohl himself recognizes this fact, and expressly states that the fœtal pulse is more frequent in the morning than in the evening §.

If we compare the detailed observations of Knox, Nick, and Hohl, with those quoted from Robinson and Falconer, it will be readily conceded, that as the former exceed the latter both in number and accuracy, the balance of evidence is in favour of the theory first advanced by Knox — that the pulse diminishes in frequency as the day advances. The general statements of Haller, Gregory, Zimmerman, Hüfeland, and Foderé, are not entitled to much attention, as they might all have been derived from the experiments of Robinson and Falconer. The observations cited from Nick seem the most conclusive as to the question which we are considering; for when made without care, and in different circumstances of excitement and repose, they yielded the same result as those of Robinson and Falconer; but when made in the same position of the body, and under the same circumstances, they led to the same conclusions as those of Knox. In the absence, therefore, of any careful and accurate observations, tending to prove that the pulse becomes more frequent as the day advances, we are justified in regarding the theory of Knox as the correct one.

That I might place this theory beyond doubt (as far, at least, as experiments made on a single individual could do so), I undertook the series of experiments which are published in the last number of the Guy's Hospital Reports. I may refer those who take an interest in the subject of the pulse to my original essay. I shall conclude the present sketch by stating the general results to which my experiments led me.

"1. The pulse of a healthy adult male, in a state of rest, unexcited either by food or exercise, is most frequent in the morning, and gradually diminishes in frequency as the day advances.

"2. The pulse diminishes in frequency more rapidly in the evening than in the morning.

"3. The diminution of the frequency of the pulse is more regular and progressive in the evening than in the morning.

"4. The effect of food is greater and more lasting in the morning than in the evening; and in some instances, the same food which in the morning produces an effect considerable both in amount and in duration, has no effect whatever in the evening."

As this difference between the effect of the same food on the same frequency of pulse in the morning and evening obviously admits of being applied to all other stimulants, and to the remedies which we employ in the treatment of disease, the diurnal variations of the pulse have a practical bearing as well as a physiological interest. Some idea of their practical importance may be drawn from the fact, that the mean effect produced by the same food on the same frequency of the pulse in the morning is to the mean effect produced in the evening as 13 to 7, or nearly 2 to 1; whilst the duration of the effect at these two periods is as 3 to 1. This proportion will probably vary in the two sexes, and at different ages, and it will not be constant for any two individuals of the same sex or age. The difference in the frequency and excitability of the morning and evening pulse will probably be less marked in the young subject than in the adult, in the female than in the male. The fact can be determined only by numerous observations, judiciously planned and carefully performed. The science of the pulse is yet in its infancy

* Hohl, vol. i. pp. 101-3.
† Ibid. vol. i. p. 177.
‡ Pp. 101-3.
§ Page 176.

DIAGNOSIS OF ADHERENT PERICARDIUM.

To the Editor of the Medical Gazette.

Sir,

May I claim a page in your valuable journal, for a few remarks upon a subject which has occupied, not undeservedly, much attention in the profession of late years—viz. the diagnosis of the lesions of the heart and appendages. Of these, none has enlisted a greater variety of opinions—none has a more scanty literary history—than *adhesions of the pericardium.* In an art like ours, founded upon observation, the contradictions of authors, both in the diagnosis and results of this disease, are scarcely intelligible; some stating it to be a necessarily and speedily fatal disease, others treating it as a matter of trifling import. Amongst the former we recognize Corvisart and Hope. The latter opinion emanates from Bertin and Laennec. In the diagnosis, almost every author of note has fixed upon some one exclusive sign, and rejected those of his predecessors.

Lancisi, and also Vieussens, fixed upon *palpitations* as their sign; Meckel upon a *small pulse;* Senac upon *frequent syncope;* Dr. Saunders upon *epigastric undulation;* Dr. Rutherford upon *jarring action of the heart;* Dr. Hope upon *increased impulse towards its base;* Bouillaud, in his first edition, could fix upon *none.* Of these I can, after much studious examination, only approve of the two latter—epigastric undulation and increased impulse towards the base; and should add to them, contraction of each intercostal space in the præcordia, except at the apex, where a contrary phenomenon is witnessed; the latter resembling that of health, only more marked. The intercostal contraction is synchronous with that in the epigastrium, and attends the ventricular systole. Another symptom of adherent pericardium, is diminished variation of the space in which the apex beats, on assuming different postures.

In a healthy adult, notwithstanding the attachment of the pericardium to the diaphragm and mediastina, a varied posture occasions considerable difference in the point of impulsion of the apex: when lying on the right side, its beats approximate the sternum; when on the left side, nearly in a vertical line with the nipple. During adherence of the pericardium, this motion, though to a certain extent prevailing, is perceptibly more confined.

There is another symptom not unfrequently present, where the pericardial cavity is obliterated — a *frottement,* when single, attending the ventricular systole.

My attention was drawn to this several years ago, whilst watching the case of a patient in Guy's Hospital, and which at the time I recorded in the books of the Clinical Society. I shall detail it, as it involves several interesting points.

Margaret Virapham, æt. 14, tall, stout, of bony make, delicate skin, florid complexion, admitted into Lydia's ward, under Dr. Beck, July 1836. She exhibited a perfect type of that temperament in which the rheumatic diathesis becomes easily established. She was labouring under acute rheumatism, and it appeared that two years and a half before, she had suffered in a similar way with pericardial complication. The history of the second and fatal attack ran thus:—Five weeks before admission she went to a situation, where she was exposed to damp and draughts; in consequence of which she left in a week, suffering from febrile disturbance, with pain in the chest and slight palpitations. On the day following her removal, she awoke in great pain; the soles of the feet and the ankles, particularly the right, being the seats of acute rheumatic inflammation. Severe pyrexia now became developed.

On the eighth day of the disease the swelling, pain, and redness, left the feet, and the symptoms of pericarditis became urgent. There was acute præcordial pain, dyspnœa, palpitations, livor of the lips, and marked distress of countenance. Her mother now noticed frequent muscular twitchings, chiefly affecting the left arm. She was bled, blistered, and cupped; but the urgency of the symptoms continued for a week, declining on the appearance of rheumatism in the left wrist. When admitted, her aspect was dull, though occasionally wild; tongue furred and dry; skin hot, and devoid of moisture; palpitations very perceptible, with strong carotid pulsation, and undulation of the scapulars. No pain in the chest, denied having any difficulty of breathing, but the respirations were 34 in the minute,

forcible; the elevation of the parietes very manifest at a distance through the bed-clothes. The pulse was 120, full, strong, and incompressible, occasionally intermitting. There was occasional delirium and persistance of the chorea movements, continuing whilst she dozed, but ceasing during sound sleep. Left wrist acutely rheumatic. The stethoscope indicated a loud and rather rasping bruit at the left of the nipple, occupying the interval between the first and second sounds. She was bled, put upon a mercurial course, and leeched on the temples.

On the next day, 29th, the bruit considerably marked; the first sound was more harsh, and occasionally followed by a second. Her symptoms became daily more severe.

August 1st.—Another change in the physical signs, the original bruit-de-scie maintained its intensity near the sternum, between the third and fourth cartilages; a soft bellows-sound also, with the first natural sound, and in addition to these a distinct rubbing.

This case having attracted considerable attention, numerous examinations were made to verify these particulars. She died on the following day; the last words she uttered being a complaint of severe pain in the region of the heart. Cough and mucous rale present for a few hours before.

Sectio cadaveris.—Inflamed bronchi; recent and old lymph on the pleuræ. Pericardium universally adherent by old false membranes, less firm over the right than the left cavities. In the cellular meshes of the former, a tolerably firm deposit of recent lymph. This was mingled with a great deal of injection and ecchymosis. The original serous membrane thickened and opaque; substance of the heart thick and capacious. On the ventricular aspect of the anterior curtain of the mitral was a ridge, half an inch long, one-third of an inch wide and high, formed of lymph, which, from its closeness and firmness, was evidently of some little standing. The lines of attrition of the aortic valves were beset with rows of coarse granules, recently deposited.

This case exhibits, as the reader will gather, the following interesting circumstances:—Rheumatism, commencing in the heart; the limbs becoming secondarily affected; acute pericarditis going on to a fatal termination, unchecked by the previous occurrence of adhesion, shewing that this pathological condition does not, like adhesion of the pleura, tend so much to prevent the recurrence of inflammation. It exhibits chorea and pericarditis in conjunction*. Several bruits of varying character, appreciable at the same time, distinctly localised; two of them being valvular, heard at different cavities, the valves themselves being in close approximation; and lastly, an adherent pericardium, and a distinct rubbing sound.

The leading features of the next case singularly resemble the preceding:—

John Price, æt. 24, admitted into the Clinical ward, at Guy's, Nov. 1837. He was an intelligent-looking man, of clear florid complexion, and rather stout make. As a sailor, he had worked and drank hard, and undergone much exposure. From the earliest period to which memory carried him, he had never been free from palpitation during exertion, but had never experienced dyspnœa till his last illness. A month before admission, an unusual exposure to weather, and a blow upon the chest, were followed by thoracic pain, cough, and dyspnœa. Unremitting palpitations and fever soon appeared. These symptoms had somewhat subsided when I first entered him in the clinical books. The pulse was 96, jerking, vibrating, and occasionally intermitting. Heart's action vehement, and attended with the following abnormal sounds:—To the left of the nipple a short scraping bruit, a murmur over the aortic orifice, both attending the systole, and a distinct and diffused rubbing sound. The upper portions of the lungs afforded bronchophony, but most extensively so in the right: here the rubbing was heard distinctly double, and much more distinctly than in any other part of the chest. He lived for two months; the pulse became extremely irregular, and he emaciated rapidly.

The phenomena mentioned as diagnostic of adherent pericardium—the impulse at the base, the undulations at the præcordia and epigastrium, and the fixed character of the beats of the apex—were here well developed. Having exerted himself one day by sitting up to dictate a letter, he was suddenly

* Dr. Bright, in his lectures, mentions this connexion as more than accidental.

seized with a paroxysm of dyspnœa, extreme restlessness, and struggling for breath; his face assumed a cadaverous pallor, and a profuse cold perspiration bedewed the surface. Stimulants for a time revived him, but he only lived for an hour or two.

Sectio.—Both lungs exhibited considerable traces of bronchitis, emphysema, and in the upper third of the right, and upper fifth of the left, pneumonia recovering. The heart was immensely hypertrophic; the pericardium every where adherent, more so on the right side, where were several patches of bone, the largest of the size of a penny-piece, and three lines in thickness. Slight deposits of recent lymph and ecchymosis in the looser cellular adhesions. Mitral thickened, and rather contracted, its tendons ossified, and four of them ruptured, the torn ends covered with recent fibrin. (To this lesion we attributed his rather sudden death.)

The anterior curtain of the valve was roughened by an oval deposit of recent fibrin, to the extent of more than half an inch, and corresponded exactly with a deposit on the opposing endocardium of the ventricle. The aortic valves thickened; the anterior drawn somewhat upwards by a firm round band, connecting it with the aorta.

I venture to request a correspondent in your journal of May 11, Mr. Perry Dicken, to peruse the above cases. After some interesting remarks upon the disease in question, he asserts as a fact that allows of no discussion, that a *frottement* with adherent pericardium is a physical impossibility. In his position I grant he is borne out by the highest authorities*; but our records are not sufficiently ample to enable us to decide definitively on many stethoscopic points. Carefully recorded facts, and Louis's method, will, we may presume, reduce stethoscopic diagnosis to as much certainty as any within the range of medicine.

The cases of Mapham and Price are only two out of many in which I have heard a *frottement* where adherent pericardium existed; but in only one other have I had an opportunity of examining, *post mortem*, the condition of the organ, and I therefore pass them by, that there may be no ground for cavil. In the two cases the *frottement* was so distinct from any valvular bruit as to allow of no difference of opinion.

The rationale of the phenomenon is puzzling; but the following case, which fell under my own observation soon after the Price's death, may throw some light upon it:—

Michael Kelly, æt. 14, admitted into the Clinical ward, labouring under rheumatism of a month's standing. There was great hypertrophy of the heart, probably the sequelæ of inflammation two years before. He was put upon the ordinary treatment, and seemed going on favourably, when he was attacked with severe pain in the region of the heart, extending to the shoulder. He complained of dyspnœa, and the respirations were short and hurried. About the third day, the existence of a very loud to-and-fro sound over the præcordia, and modified bronchophony over the whole of left lung, left no doubt of the existence of pericarditis, and its constant attendant pleuritis. He was treated actively, and pain and febrile disturbance declined. The *frottement* rather suddenly disappeared, and was replaced by a morbid commotion in the præcordia. The space opposed to the apex was impelled outwards more forcibly than usual during the systole of the ventricle; at other points the intercostal space was as violently drawn in. The same phenomenon was present in the epigastrium. Some time after, the left lung having evidenced better respiration for a few days, a marked *frottement*, ascendant and descendant, engaged the whole of the (left) pleural cavity, being synchronous with in- and expiration: at the same time a similar sound, near the heart, attended each ventricular systole. The physical evidences leave no doubt in my own mind that, on the cessation of the *frottement*, the pericardium became adherent; and as little doubt that, on its reappearance, its seat was the pleural cavity. Is it unreasonable to account for the other case in a similar way?

Several other abnormal sounds are produced in the pulmonary structure by the action of the heart. In one instance a distinct sonorous rale was audible at the anterior edge of the right lung at each contraction of the heart, which allows of solution from the fact, as proved

* Except Dr. Addison, who, without being aware that the question was in agitation, more than suspected that an adherent pericardium need not exclude a *frottement*. The opinion of such a stethoscopist as Dr. Addison I consider the highest confirmation of my position.

by Dr. Mollison, that at each contraction of the heart a certain quantity of air is expelled from the chest. Such being the case, it is not at all improbable, *à priori*, when the viscera, by their respective hypertrophy and emphysema, tend to encroach one upon the other, that such sounds should occur synchronously with the pulse during bronchitis. Tubular respiration is, under some circumstances, heard around the heart. These circumstances are a lung somewhat transgressing its natural limits upon the pericardium, the latter being distended with fluid. A hypertrophic heart will displace the lung altogether; but the figure of a distended pericardium will be moulded somewhat by the lungs, and, by pressing behind them, prove a legitimate source of this sign. I have met with it twice; and in the second instance had an opportunity of examining, *post mortem*, the condition of the thoracic viscera through the kindness of Dr. Guy, who attended the patient after he left Guy's Hospital. I cannot but think it a point of some value, as the evidences of hydropericardium, especially where of gradual access, are often obscure.

The cases of Price and Mapham tend to illustrate some remarks which you favoured me by inserting some months back, respecting the tendency of the mitral valve to become diseased, where the pericardium is adherent to the heart, hypertrophic, and active.

Before concluding, allow me to draw attention to the increase of heart disease in this country (in the metropolis at least) during the few last years. On examining the pathological records of Guy's, it appeared that the years 1826 and 1836 might be taken as fair averages of the periods.

Year.	No. of Cases recorded.	Medical.	Surgical.	Heart Diseased in—
1826	159	108	51	17
1836	157	103	54	59

The increase is a multiple of about 3½. Trifling lesions, as circumscribed thickenings of the pericardium, &c. have not been taken into account. The difference cannot be accounted for by inadvertence or oversight, as Dr. Hodgkin, under whose superintendence the examinations were made, was collecting materials for a paper on disease of the aortic valves. It is notorious that the revolution caused a fearful increase of the disease in France; and the political agitations of the last few years, with the intemperance engendered by them, and the epidemics that have visited the country, will probably explain our increase.—I am, sir,

Your obedient servant,

ALFRED ASPLAND.

Ashton-under-Lyne,
June 14, 1839.

TUMOR CONNECTING THE FŒTUS WITH THE WOMB.

To the Editor of the Medical Gazette.

SIR,

IF you should consider the following case worthy of a niche in your widely circulated journal, you would much oblige by inserting it,

Your constant reader,

JOHN HALL,
Surgeon.

West Kilbush, Scotland,
May 31, 1839.

J. S. ætat. 28 or 30 years, of a robust plethoric constitution of body, has had, previously to becoming pregnant of this her first child, invariably good health.

About two months subsequent to her conception, which happened in the month of June, 1838, she first complained of lingering pains, circumscribed on the left side, described them as of a gnawing character, accompanied by a burning sensation. Not being then in this neighbourhood, my professional neighbour, Mr. Speirs, was called, and prescribed a mustard cataplasm; but

what else (if there was any thing else done) I know not. However, by this method of treatment she seems to have been relieved, *pro tempore;* but a short time afterwards the symptoms returned, and continued without intermission the whole period of utero-gestation.

On the morning of Sunday, 10th March, 1839, I was summoned to her bedside, when, upon questioning her, I found she had been painfully distressed for about 18 hours prior to my call, and upon making vaginal examination, I discovered the os uteri to be soft and dilatable, but not in the least patent, and pronounced the pains to be of a false character; prescribed an anodyne, and returned about the middle of the day. Found she had received considerable rest, and continued yet drowsy. Made no examination. Returned in the evening; was informed the pains had again supervened, had been stronger, and more regular in their nature. Instituted an examination per vaginam; the os uteri dilated a very little; thought I discovered the head of the infant, but when I searched for the fontanelle was baffled. This head had a most uncommonly spongy and corrugated feel; and, from the circumstances of the case, could not be satisfied as to its nature, nor of its relative position to the womb and circumjacent localities. Was ill at ease with myself at the termination of my examination, on account of the discovery, or rather puzzle, I had made for myself; resolved, as soon as the os uteri should become more patent, to set about a more thorough and more satisfactory investigation.

An injection meantime had been administered, the feet immersed in tepid water, and a warm gruel stimulant drink given; the pains, however, continued, on an average, much the same. About midnight I again made examination, and found the os uteri dilated to the dimensions of half-a-crown piece. When the pain was on, I recognized the same spongoid corrugated body I before described; but while I continued my investigation of this, which I now satisfied myself was not the child's head, as the pains subsided, it gently rolled away from my touch, and the real head presented itself. I could not be mistaken; here was the anterior fontanelle, and there the sutures. The real head was now presenting quite naturally. What was the nature—what the pretensions of the first "unwelcome guest?" became the all-absorbing questions. I resolved to probe the mystery to the bottom. Having ordered my patient some wine negus and two or three drops of laudanum, I allowed about an hour or so to elapse, when I passed my hand into the vagina, and partly into the womb, and discovered a tumor of a pyriform shape, attached to the left side of the womb by a small pedicle, and also connected by a thin skin to the prepuce and scrotum of the infant. The former attachment, without much difficulty, was destroyed; but the greatest care had to be exercised, for fear of injuring the infant: nevertheless, I succeeded in loosening the tumor; and finding it free entirely of any holds, I now made a motion to the door, when the womb made a vigorous contraction, and the head of the child was forced with considerable violence against my hand. It was impracticable for me now to move my hand; but, whenever the pain abated, I made my way good, bringing my strange discovery with me.

In the meantime the draught (anodyne) was repeated, the pains after the operation having almost or entirely dwindled away to nothing. Latterly, this was succeeded by constant shooting pains, which were productive of no effects in furthering the process of parturition. Injections three times over were administered, composed of castor oil, salt, and croton oil. Ergot of rye was also given; but it was not till it had been administered the third time that any thing like regular contractions of the womb, and of an efficient nature, came on. About two or three o'clock on Tuesday morning, regular pains, and accompanied with strong involuntary pressure, changed the aspect of affairs, and gave high promise of an easy, expeditious, and safe accouchement; but in the second stage of the process, owing to the head of the child being large, and the comparative diameters of the pelvis being of such dimensions as not to permit a free transit—after waiting till such time as a fair trial had been given to nature, and every assistance that the lever could give, or manipulations afford, was gone through—the forceps were applied, and the child forthwith ushered into the world. The mother, for at least two weeks thereafter, was in a very weak condition, requiring her

water to be drawn off by means of the catheter. At the present date she is quite recovered.

With respect to the tumor, it I preserved, and carried home for inspection. It is of a pysiform shape, of a cartilaginous sebaceous consistence, and does not seem to be organized. It measures about 6 inches from apex, where it was attached to the child, to fundus, and 3¾ inches in diameter. It presents externally the corrugated appearance which it felt *in sitû* in the womb, but when cut into is of a homogeneous structure, unorganized throughout. It weighs about 6½ ounces.

The child's privates continued very sore and inflamed, where the tumor had been attached; had to be leeched, bathed with evaporating lotions, poulticed; and are now quite well.

In the present letter I do not intend to philosophise on the origin of such growths; how, without apparent organization, they exist, and attain different degrees of magnitude. This I leave to others more disposed and more able to give a correct theory than I am; for all attempts at explanation of such phenomena must be founded on the principles of theory and conjecture. They cannot be accounted for on any known data of any ancient or modern science, with which the student of nature is acquainted; they are, unquestionably, all several modifications of the thousand freaks that wayward nature plays off, at the expense of the "foolish wisdom" of man, and to evince, to his admiration and wonder, her powerful superiority.

Tumors are extremely common, and are very often met with in various parts of the human body, particularly about mucous membranes; and this case is alone remarkable for its anomalous character, and the peculiarity of its attachments. Attached they are oftentimes to the sides of the womb and side of the vagina; but attached to either of these in the one place, and to the preputium and scrotum of the infant in the other, is a circumstance which, in all my experience, I have never fallen in with, nor heard of its being seen by others, nor even read of it in books. It, therefore, merits the earnest attention of the profession at large, and more particularly the young practitioner, about to make, or having just effected, his *début* on the dangerous, often fatal, sea of public opinion.

N.B.—The phenomenon of the tumor being at one time felt, at another the head, in my examination, is explained by the way this transpired. During the labour, when the pains were on, the body of the child being ambient in the waters of the womb, its lower part, where the tumor was attached to it, was dragged down, and the head of the child swung towards the side of the mother, the tumor being thus pressed into the os uteri. Again, when the pains subsided, things assumed their natural relation to each other respectively.

CASE OF VERY EXTENSIVE ABDOMINAL DISEASE.

By E. H. Weale, M.R.C.S.L.

Assist.-Surgeon, Royal Naval Hospital, Plymouth.

[*For the Medical Gazette.*]

The following particulars of a post-mortem examination, which I had some time since an opportunity of witnessing, through the kindness of the medical attendants, Sir George Magrath and Mr. Taylor, seem to me deserving of notice, from the extent of disease, the number of organs affected, and especially from the alteration which had taken place in the left kidney.

The appearances are, I trust, accurately described; and the following brief sketch of the symptoms is drawn from the communications of the medical attendants, and partly from my own observation, having been acquainted with the subject of the case.

Mr. E. æt. 57, had been subject for several years to occasional attacks of hæmaturia, which, after continuing for some days, ceased; and he was again able to resume his occupations in a public establishment. The attacks were latterly more frequent, and at last became alarmingly profuse; and his health becoming too much impaired, to allow him to continue longer in active employment, he retired about two years ago; but under the treatment of Sir David Dickson and Mr. Rae, and the strictest attention to his general health and quietude, he recovered sufficiently to perform the ordinary duties of life, and even to enjoy the society of his friends, occasionally visiting the country for change of air. For some time I had not seen Mr. E., and was

surprised at hearing of his death. I learnt that an examination would take place, and accompanied Dr. Armstrong, of the Naval Hospital, who had seen him two or three times previously to his decease. For some time a large circumscribed tumor had been evident in the left side, which could be partially emptied by pressure, and was unattended by pain. The bowels were obedient to medicine. He had latterly no appetite, and indeed a distaste, especially for animal food; and the stomach was very irritable. Of this case I know nothing further, not having seen the patient during the illness preceding his death; but the post-portem appearances are most interesting, both as accounting for some of the symptoms, and as showing how long the constitution will struggle against disease slowly advancing, and at length attaining to enormous extent.

Sectio Cadaveris. — The body was very much emaciated, and had a greenish unhealthy aspect. On opening the abdomen, the great omentum was found to adhere to the anterior parietes, and to be thickly studded with tumors deposited in the subserous tissue, varying in size from a bean to a walnut, and externally mottled with red tints. They differed in consistence; some being like fœtal brain, streaked with blood, others of a much firmer character. On raising the omentum, the whole of the intestines and peritoneal processes were found closely covered with similar productions, which were so thickly crowded together in the pelvis, and on the top of the bladder especially, that none of the healthy serous membrane was apparent; indeed, they were like clusters of small potatoes, having the same tuberated and mottled red appearance. The mucous coat of the alimentary canal did not seem to be diseased, nor even the muscular; for several of the tumors were carefully peeled off, and the muscular bands could be seen unengaged in the disease, which was distinctly seated in the cellular tissue, under the peritoneum, which formed its outer covering, and from which numerous minute vessels could be seen running into the diseased parts. The serous membrane covering these growths, though much more delicate than normal, was highly vascular. Wherever the subserous cellular tissue most abundantly existed there was the greatest deposit; for an immense mass of almost cartilaginous firmness was attached to the spine, and surrounding the great vessels and extending into the duplicatures of the peritoneal processes. A large tumor situated in the left hypochondrium, and discernible before the abdomen was opened, now attracted attention: it displaced the stomach upwards and to the right side, and closely compressed the descending colon, (which wound round and was attached to it) against the abdominal wall. The coats of the tumor were bluish, and it was distended with fluid blood, which escaped on its being punctured. The whole mass was carefully removed, and on examination was discovered to be the left kidney, changed in the following manner. It was upwards of seven inches in length, and lobulated, assuming a scaphoid form, its internal concave side forming the external wall of a sac, which was the enormously dilated pelvis, and in which the calyces formed such deep depressions, (of a size sufficient to admit the point of the thumb) as to render its inner aspect best comparable to the anterior surface of the sacrum, with one row of its foramina. The coats of the sac were greatly condensed, and the lining one glistening and fibrous, except where it had softened into brain-like matter. The papillæ had disappeared, and in their place was a highly vascular pulpy mass, through which a probe readily passed to the capsule of the gland. On section the organ was found to consist of two structures; one firm and brownish, contained in cells; the other like the cortical substance of brain, but more vascular, and as before described, opening into the calyces, and probably the source of the hæmaturia under which the patient had occasionally suffered for several years. In one of the calyces a cicatrix was distinctly seen; evidently the seat of an attempt at reparation. The coats of the renal veins were remarkably thickened, and were patent as arteries, but did not contain any carcinomatous matter. Some traces of disease were observable on the surface of the right kidney, which was otherwise normal. The liver was large, pale, and the seat of numerous depositions, on the surface assuming the form which has been likened to the head of the radius; their centres white, their circumferences

purplish. They varied in consistence, but were generally firmer than brain. The disease could be traced through its different stages; in the very early appearing like minute pearly or opaline spots, and then becoming cerebral in appearance and consistence, and more vascular. The secretory powers of the organ did not seem to be materially affected by these depositions, though so numerous; the gall bladder being distended with healthy bile.

The lungs did not present any adhesions. The right was quite healthy, but the left was congested with blood, and its serous membrane of a deep grape colour, and studded with growths similar to those in the abdomen, but not larger than black currants, to which they bore a strong resemblance. The heart was quite normal. The head was not examined. It is worthy of remark that in this case the absorbent system seemed unusually free from a disease in which the excernents had performed so active a part.

ON HYDROPHOBIA.

By Robert Hull,
Licentiate of the Royal College of Physicians.

[*For the Medical Gazette*]

The hydrophobia seems to have been very merciless in the metropolis of late. But I have for many years entertained an opinion that a considerable number of the fatal cases were simply nervous, and that the patients have died of terror. The influence of the mind on the body is an omnipotent influence; it saves or kills: and the nervous system allows an infinity of morbid variations, so that there is no disease which may not be precisely imitated in the freaks of this marvellous structure. Some years ago, a French lady, whose case I saw reported, displayed all the symptoms of genuine hydrophobia. She was nigh unto death; but a shrewd physician being summoned, he made it his first business to inquire whether the dog which had bitten his patient was really mad. He found the animal healthy, and cured the lady, hydrophobic through imagination, by opiates, which tranquillized her nerves.

I believe there are very many similar cases, where the patients are mad, and not the dogs; and that when the animals have been rabid, many bitten patients have died, not of the canine poison, but through nervous excitement. Nay, I have read of but few cases which might not be solved philosophically by this supposition. It is true that children have died of this disorder, too young, it is said, to have been killed through mental influence. But who shall define the juvenile æra, when the mind of a vivacious child has not begun to play upon his body?—and in almost all the adult cases it has been clear that the *idea* of the rabid dog had been quietly but continuously haunting the patient. Let your readers look on these cases, and on inquests by coroners, with a sceptical yet inquisitive attention, and they will recognize, not seldom, the moral cause.

This metaphysical influence I suspected, not long since, in the instance of one Sarah Johnson, on whom an inquest was held, by Mr. Payne, at the Gentleman and Porter Inn. I saw the narrative in the *Evening Mail*. This ill-starred woman probably died of terror. "She had got wet, which accounted for her symptoms." Her surgeon had not, at first, "the slightest idea that Mrs. Johnson was affected with hydrophobia;" but the idea, latent in her own breast, begins to act; and on the second day she tells him of "a dog which some time since struck her on one of the upper teeth with his nose, with such force as to loosen it. No mark whatever was left externally; but part of the saliva from the dog's nose" (saliva from a nose!) "was left on her lips, and she fancied" (fancied!) "some on her tongue." Who does not detect the mental apprehension—the monomania? Saliva from a dog's nose, without a breach of surface, contaminating a human frame! But the surgeon thought it possible, and that "there is no difference between swallowing saliva and being bit"—a most questionable, a much questioned, or rather, a discredited doctrine. Upon this the surgeon bled and leeched her; but the *idea*, now declared, cannot escape by the venous orifice, as the souls of the Homeric heroes slipped through the lance-wounds —Τοῖο δ' ἅμα ψυχην τε καὶ ἔγχεος ἐξερυσ' ἀιχμην. No wonder, then, that at five o'clock her manner perfectly satisfied her surgeon and another medical man "that it was a decided case of hydrophobia."

"She shewed terror at the sight of toast and water; on Saturday discharged an immense quantity of saliva from her mouth," "and died about one o'clock"—died, I suspect, of mental influence, because Mr. Johnson had testified that "she was alarmed at the time of the accident, but, finding no wound, took no further notice:" no further outward notice, until she mentioned the dog to the medical man. He previously had thought a cold would account for the pulmonic symptoms, but immediately upon this narration recognizes hydrophobia, and excites his patient with this diagnosis;—a patient long secretly gnawed by this very idea of rabies: feminine — susceptible—feverish, with inflamed lungs. Is it marvellous that she should die about one o'clock the day following, even had the lungs been healthy, and not, as they were, "gorged with blood"?

Now there is no strict evidence that even the dog was mad, or that he was killed in Bridge Street as mad; there is none that the patient was lyssamaniac. If, as I believe, pneumonia was Mrs. Johnson's physical malady, the good sense and skill of her surgeon would probably have cured her, had not the unlucky idea of rabies been thrown across his path by her own story, and too easily appropriated.

In this credulity he is not alone, nor culpable, unless the greater part of our profession are so. There seems scarcely ever in the mind of the British practitioner a suspicion that the phenomena may be all due to terror; yet nobody will deny this influence generally. If there be such a sceptic, he has only to peruse Mr. Winslow's paper in this very work; and if he question it in these lyssic cases, let him only read the article Hydrophobia in Cooper's Dictionary—a performance which it is impossible to quote without a sentiment of deep gratitude for the triumphant labours of that indefatigable compiler.

Since it is certain that moral influences will simulate physical, in their pernicious and even fatal effects—since rabies has, in some cases, existed when the biting animal has not been rabid—no harm can possibly result if the practitioner *assumes* the moral character of the symptoms. Either the patient is rabid, or he is not. If he be not, the therapeutic treatment must be only mental, or rather moral; if he be, since it is ascertained that all treatment of physical rabies is unsatisfactory or useless, it is best to leave the process of cure to nature *entirely;* not interfering with her miraculous agencies, by suffering the mind of the patient to be engaged. Rather, as the French would say, keep the *morale hors de combat.*

Quoting the case above detailed, I had no wish especially to refer to *that.* It fell in my way. In this city, and within nearly as short a period, a case of fatal hydrophobia, so called, was reported. This case I suspect to have been one of the nervous or metaphysical class. I enter into nothing of details, because I perused only the statement of a newspaper, and I impute no blame. My simple desire is, that the profession should be reminded that a man may possibly die mad from the bite of an *un*mad dog; that even the bite of a rabid animal may be abstractedly innocuous; that even here the tremulous mind may be the cause of the virus operating and destroying; that the best chance of life is afforded by the *tranquilla mens;* and that the practitioner of tact will, at times, even use his scalpel to produce that tranquillity. It is said that the enormous success of Boerhaave was owing to his constant remembrance of the mental influence; whilst the tendency of the present times is to forget the immaterial, and to solve all by the *physique.* Post-mortem phenomena are considered to be ante-mortem causes; vascularity is regarded, and nervous influence forgotten; and from the French school, which has always, in every department, been comparatively superficial, the distended vein, the injected apparent capillary, has been paraded as the mortal ensign; whilst the latent, the mysterious, the potential agency, of the nerve, has been overlooked.

Norwich, May 29th, 1839.

DROPPING TUBE FOR THE TEETH.

To the Editor of the Medical Gazette.

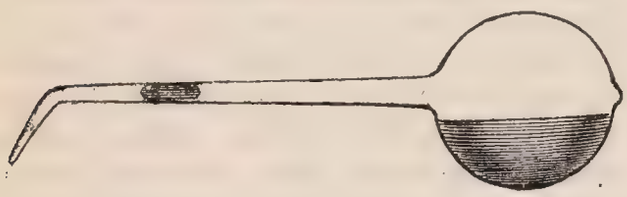
Sir,

Although we must all acknowledge the value, and almost perfection, of dental surgery in the present day, still re-

sort will necessarily often be had to different remedies for the alleviation of toothache.

These remedies being for the most part of an acrid or highly stimulating character, often occasion considerable inconvenience, and also injury, from their coming into contact with the gums or neighbouring teeth in the act of applying them.

Having found a little instrument, a modification of the dropping-tube (of which I subjoin a sketch), of great utility, and very convenient, I venture to recommend it, through the medium of your valuable journal, to the profession.



It consists simply of a glass tube, having a bulb at one extremity, and bent and drawn to rather a fine point at the other.

The fluid to be used—say, creosote, which now seems to be generally and deservedly the favourite—is introduced into the bulb by driving out the air with a spirit-lamp, in the manner that thermometer tubes are filled. (It is desirable that the bulb should not be more than one-third full).

When required, the bent extremity is to be inserted into the hollow of the tooth, and a little of the creosote allowed to pass into the tube. On applying the warm hand to the bulb, the expanded air will drive the drop or drops gently on to the orifice, through which it will pass gently on to the bottom of the cavity.

The advantages of this little instrument consist, 1st, in the ease and surety with which the remedy can be applied at the bottom of the diseased cavity, and immediately upon the nerve; 2dly, in being able to avoid any unnecessary contact of the application with the gums, or neighbouring teeth; and 3dly, in its convenience. A stock of the remedy is contained in the bulb, and is ready for instant use; and so sure and delicate is its action, that when the bulb is cold, and the hand tolerably warm, the approach of two fingers towards it is enough to drive on the fluid.

For the application of nitric acid, to which, when

—— "thee —— thou hell o' a' diseases,
—— mocks our groan,"

we may be induced to resort to, it will be found exceedingly convenient.

I am, sir,
Yours, respectfully,
J. D. JEFFERY, Surgeon.

Sidmouth, May 28th, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on the Nature of Club-foot and analogous Distortions; including their treatment, both with and without surgical operation. Illustrated by a series of Cases, and numerous practical Instructions. By W. J. LITTLE, M.D., &c. London, 1839. 8vo. pp. lxii. and 274.

WE learn from Dr. Little that Thilenius was the first who proposed the cure of club-foot by division of the tendo Achillis. The operation was performed, at his suggestion, by a surgeon named Lorenz, in 1784, and succeeded perfectly. It was afterwards performed by Sartorius, Michälis, and Delpech; but the difficulties and inconveniences attending it appear to have prevented its general adoption until its revival by Stromeyer, in 1831. It has now been frequently performed in this country, chiefly, we believe, by Drs. Little and Krauss, and promises to become a standard operation. Dr. Little himself suffered under the infirmity which he describes so well, and was cured by Dr. Stromeyer.

There are three kinds of club-foot; in *varus* the patient walks more or less upon the outer ankle; in *valgus*, he treads upon the inner ankle; and in *pes equinus*, the sufferer treads upon the toes alone. We are always sorry to see additions to the endless nomenclature of medicine, and regret, therefore, that Dr. Little uses the terms, *Talipes varus*, *Talipes valgus*, and *Talipes equinus*. In some cases, he tells us, a cure may be accomplished by the use of ferri-sesquioxydum, hydr. c. cretâ, rhubarb, and counter-irritation along the spine, with frictions and manipulations. In others, mechanical treatment alone will effect a cure, without relapse, in a few months. There is a third class in which the division of one or more tendons is necessary:—

"In most cases of Talipes equinus, and in many of T. varus, which require an operation, the tendo Achillis only is required to be divided; in other cases of Talipes equinus I have sometimes found it necessary likewise to divide the tendons of the tibialis posticus and flexor longus pollicis muscles. In severe long-standing cases of Talipes varus the section of the tendons of the anterior tibial, posterior tibial, extensor proprius and flexor longus pollicis muscles, is requisite, in addition to division of the tendo Achillis, in order to facilitate the restoration of the foot to its natural shape and position. The case of congenital Talipes valgus already mentioned will indicate the parts which it may be found necessary to divide in that form of disease.

"I will not detain the reader, either by instituting comparisons between the mode of performing this operation and the subsequent treatment adopted by those who preceded Dr. Stromeyer, of Hanover, or by stating my objections to the plans of those who have succeeded him. As I regard Stromeyer to be the regenerator of this important addition to our means of curing club-foot, with other contractions of the ankle, and similar deformities of various parts of the body, and having experienced in my own person the success of his method of treatment, corroborated by the numerous cases which I have cured by the same means, I shall here only briefly enumerate the principles recommended by Stromeyer to be followed.

"The tendons of the muscles which maintain the deformity should be divided with as little injury as possible to the skin and neighbouring parts.

"No attempt should be made to force the foot into its natural shape immediately after the operation; but the necessary extension for that purpose should be commenced as soon as the external puncture or punctures are completely healed: this occurs about the second or third day.

"The lymph which is effused between the ends of the divided tendon or tendons, with the muscles that are not divided, and the ligaments and fasciæ which may impede the replacement of the foot, must be gradually extended until the foot assumes its natural shape, and the ankle can be bent to its fullest extent.

"The application of the apparatus by which extension is effected must be continued for a certain period after the cure, notwithstanding that the patient has been enabled to stand firmly, and has improved in walking, in order to obviate the tendency to contraction evinced by the intermediate substance or lymph effused between the ends of the divided tendon.

"We may explain the reason of the safety of dividing so large a tendon as that of tendo Achillis, or of puncturing the fascia of the sole of the foot and dividing the tendon of the flexor longus pollicis, by the facts, that no inflammation follows the infliction of so small a wound, that the skin immediately agglutinates, and the severed tendon is placed in the comparatively safe condition of that of a ruptured tendon, between which and an exposed wound of tendon there is the same difference as exists between the simple and compound fracture of a bone, with reference to the probabilities of suppuration or sloughing. I have had under my care seventy-three cases of contractures of the ankle and knee joints, treated by division of various tendons, amongst which there was no instance of the puncture not having immediately united by adhesion. This result is solely attributable to the smallness of the wound, and the non-disturbance of the healing process by precipitate attempts to straighten the limb*."

The following history is very curious: the patient was Dr. Inglis, who was afterwards successfully operated upon by our author:—

"Fifteen years since, and prior to the commencement of his medical studies, he became convinced, solely from his sensations, uninfluenced by any anatomical knowledge, that his lameness depended upon a shortening of the tendon behind the heel, and consequently that if that were cut his lameness would cease, by the heel being allowed to reach the ground. He communicated his opinion and suggestion to the medical attendant of his family, who discoun-

* "I have expressed the intention not to institute comparisons between the Stromeyerian method of cure and the mode of operating pursued by the predecessors of Stromeyer; but I may be permitted to remark, that the slow advance of our art with respect to the division of tendons for the cure of contractures mainly arose from the extensive suppurations, sloughings of tendons, and consequent failures, which frequently followed the large incisions made by Sartorius, Michaelis, Delpech, and others."

tenanced them, and explained to him the danger which he supposed would arise from the division of a tendon, and especially of that of the tendo Achillis, and advised him to abandon the idea of his lameness being curable. Not being discouraged by this adverse opinion, he communicated his ideas to other members of the profession; they, however, concurred in the advice given by the physician first consulted. Being still dissatisfied with the decision, he determined to put in execution his own project; and contriving an appropriate apparatus for drawing down the heel, he secretly divided the tendo Achillis with a surgical instrument. Considerable bleeding ensued; his family were soon aware of the circumstance, and directly sent for their medical attendant, whose advice had been so pertinaciously rejected. That gentleman treated the patient as monomaniac (certainly not without some reason, as he was ignorant of the safety of dividing large tendons, even with the greatest skill and care bestowed upon the operation); and ordered the careful adjustment of the lips of the wound, so as to obtain cicatrization. The treatment subsequently pursued was that deemed applicable to an accidental division of the tendon; the foot being bandaged in a state of extension, in order to keep the edges of the divided tendon in close contact, and to prevent the patient from walking until the union of the tendon was complete. The consequence was, that on obtaining permission to walk he found the elevation of the heel and the state of the deformity the same as they were before division of the tendon. Had permission to walk been granted immediately on the healing of the skin, whilst the lymph which united the divided tendon was soft and susceptible of extension, it is probable that the operation performed by the patient would have been successful. As the elevation of the heel was not very great, the weight of the body being thrown upon the tarsus would have sufficed to force the os calcis to the ground, and the act of walking might have induced a greater range of motion of the ankle. The cicatrix where the operation was performed by Dr. Inglis is distinctly visible, and about an inch in length transversely over the tendon, shewing that the incision was considerable. Dr. Inglis informs me that he cut from without inwards, doubtless through skin, fascia, and tendon. It is fortunate that so extensive a wound healed by adhesion; a suppurating wound of the tendo Achillis, such as accompanied the first and only operation upon the tendo Achillis performed by Delpech, of which an account was published, would have been attended, as was the case treated by that surgeon, with sloughing of the tendon, a wound tedious in healing, and consequently a protracted and imperfect cure."

We will content ourselves with one short extract more, containing a valuable hint:—

"I am convinced of the justice of an observation made to me by Dr. Stromeyer, that rupture of the tendo Achillis is an accident from which, but for the needless interference of our art, the patient would always perfectly recover, without pain during the treatment, or subsequent inconvenience when walking. The application of the slightest bandage, in order to prevent motion of the ankle-joint during the first few days after the accident, is all that is requisite to ensure perfect union: indeed I think it probable that the application of bandages might be dispensed with."

Thirty-six cases are narrated by our author, with comments, and they are illustrated by forty-one well-executed woodcuts.

He has already treated eighty-two cases (among whom were nine members of medical families); some required division of the tendo Achillis only; others, that of two or more tendons. Dr. Little's treatise will be consulted by every operator, and is unquestionably one of the most useful books of the season.

MEDICAL GAZETTE.

Saturday, June 22, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL CONGRESS AT DUBLIN.

THE progress of society, as we remarked in our last article, has produced an enormous and irresistible demand

for cheap medical advice. The question to be settled is, whether it is better to have physicians like the continental ones, whose fees may suit the slender means of the very humblest of the middle classes, or whether their place should be supplied by apothecaries? In England the question is decided for the present, and probably for years to come; in Ireland it is still a debateable point. Now Mr. Carmichael (by far the best speaker in the Congress) has not the smallest relish either for minute fees or for apothecary practice. What he would have, or how he would solve the professional problem which is now offered to our Irish brethren, does not appear. Perhaps some dim vision of a Medico-Chirurgical Act, stringent as the Apothecaries' Act of 1815, may float before his imagination. He may be assured, however, that it would be difficult even to get any one to bring in such a bill, and that its passing would be too wild a supposition for a dream. The extreme inconvenience that must have been suffered in this country for ages, through the want of cheap advice, is obvious to every one who has studied the history of the profession. When a fee was equivalent to half a year's rent of a large house in London, and the College of Physicians checked the practice of surgeons and apothecaries with the iron hand of the law, where could an ordinary man seek for medical assistance? No doubt the surgeons and apothecaries did practise in spite of verdicts and censures; but the deficiency must have been chiefly made up by the host of farriers, midwives, herbalists, and all the minor professors of leechcraft, as well as amateur practitioners of every grade. Yet all these semi-professional and voluntary aids must have proved insufficient; and there can be little doubt that more persons perished for want of medical succour in England during those ages, than now suffer from the same cause in Styria, Carinthia, or Dalmatia. In time the defect was supplied, not perhaps in the best manner, but sufficiently so to content the public. In Ireland it would seem that social instinct is supplying the same want in the same way; but Mr. Carmichael cannot see that it *is* a want—just as people riding in their well-hung chariots talk of "the omnibus nuisance." A certain physician in high practice knows better, for he told Mr. Carmichael that "Families will have a cheap medical man, a person whom they can call upon at all hours, a kind of male gossip, often taken out of his bed at night on the most trivial occasions; besides, he must be advanced in years, and married." After making due allowance for a little raillery in this description, we think it much more exactly fits the apothecary of 1780 than the English general practitioner of 1839; but for this very reason it may be an accurate picture of the Dublin apothecary of the present day; as it is natural that in copying the phases of English society, something like chronological order should be observed.

Mr. Carmichael, however, thinks the physician in high practice quite in the wrong. He believes the apothecary to be a more expensive attendant than the physician or surgeon; "and as to the objection that grave elderly physicians and surgeons cannot be had on moderate terms, I am sorry to observe so many hoary signs of advanced life, whitening the temples without filling the pockets of numerous meritorious *confrères* around me, who, perhaps, would be well satisfied at receiving a guinea every second or third visit, or to be paid annually a regular stipend for attendance on families," &c.

Perhaps would be well satisfied with a guinea every second or third time!

We wish they may get it. This method of untying the knot by the invention of half-guinea or seven shilling fees is wonderfully like the plan for escaping famine, devised by the princess in the story: rather than die of hunger, she said, she would eat bread and cheese. If the petty shopkeepers of Dublin or Limerick can give seven shilling fees, we acknowledge that the difficulty is cleared up, and the apothecaries may be sent back to their mortars. The scheme of an annual stipend will do in many instances, provided the salary is a very small one; but if it is, surely Mr. Carmichael will dislike it as much as the half-crown fees; if it is to be considerable, the middle classes will not be benefited; and even if moderate, the poorer among these classes will shrink from an insurance, and run the risk of a bill.

The speaker, indeed, carries the art of not seeing so far, that he does not see the necessity of being married, in order to gain the confidence of families, but assures the public "that far greater security is afforded them in the moral, religious, and honourable principles of well-educated gentlemen," &c.

If a first-rate practitioner like Mr. Carmichael, learned in all the varieties of human frailty, habituated to the confidence of every class, from the uneasy heads that wear a coronet, down to the hewers of wood and drawers of water, does not know why the married are preferred, we will not pretend to teach him *, but will pass on to another point.

Mere druggists, adds Mr. Carmichael, have now become doctors, "and even prescribe with impunity for those who have the consummate wisdom to consult them." No doubt of it, for many patients who have no honorarium for a practitioner of the first class, nor seven shillings for a white-headed doctor of the second, nor even half-a-crown for a married apothecary, have ninepence for a druggist. This is a very prosaic fact, but fact it is; and unless we can teach the ninepence to fructify in the patient's pocket, we must either connive at cheap practice coming in a very questionable shape, or persuade regular practitioners to pouch the tiniest fees without blushing.

Why did you go to that ninny of a druggist, when you might have had Mr. Carmichael? *Res angusta domi* is the unanswerable reply.

We agree perfectly with the speaker, that it would be most desirable if the practice of physic could be entirely separated from the practice of pharmacy; it would probably have the double effect of improving the practitioners of medicine, and of creating a race of apothecaries who, by returning to the art which they have left, might vie with their brethren of the continent. But to effect this happy disjunction, we see but one method, and to this he has an invincible repugnance; to put down the omnibuses, you must drive your coaches at omnibus fares—and this he will not hear of.

Mr. Carmichael touches a little on medical police, and supposes that the vaunted regard for British freedom which is professed on this point, is a mere pretext for raising a considerable revenue by the stamp-duties on quack medines.

Our readers who recollect how fully we treated this subject a few months ago, will readily excuse our not entering upon it again now; but we will just warn them, that the less they expect from any application to parliament concerning nostrums, the less they will be disappointed.

* Yet we have a mind to teach part of the theory in a note. A settler in Australia, some years since, writing to a friend in England, lamented the deficiency of women in the colony, and begged that they might be sent over, "for a wife sobers a man more than two sermons a-day."

Sydney Smith, in one of his pamphlets, tells a pleasant anecdote of the trial of some notorious smugglers, which took place in Guernsey. They were acquitted, to the surprise of every one out of the island, but of nobody in it; the fact being, that judge, jury, counsel, and witnesses, were all concerned themselves in the contraband trade. Now, when we consider how many lords of parliament, burgesses, and knights of the shire, drink balm of Gilead, swallow antibilious pills, or besmear themselves with infallible ointment, we cannot help fancying that the Guernsey case is renewed, and that the jury have a passion for moonlight trade.

The great object of the meeting, however, appears to have been the fusion of the physicians and surgeons into one body, by means of an act of parliament;—a plan, therefore, much resembling the notable One-faculty Scheme, which afforded us so much diversion in England a few years ago. "What," said Dr. Lushington, at that time, to certain applicants, "is not the physician the physician, the surgeon the surgeon, and the apothecary the apothecary? Gentlemen, I wish you good morning." The difference between the two schemes is, that the Britannia metal was to be formed of three ingredients, while the Irish pinchbeck is to consist of two only; for the two higher estates refuse a union with the third, and drive it away from the melting-pot. Yet we have gone rather too far, in allowing that the two estates are willing to dissolve into each other; for, in truth, the surgeons have been joined only by a few individual physicians, the College of Physicians having wholly rejected their proposition.

To the unspeakable astonishment of Mr. Carmichael, the most desirable match ever projected is balked by the foolish obstinacy of one party: the ring is bought, the travelling carriage hired, the bridegroom has his own consent, and nothing is wanting but—the bride's! The Fellows of the College have actually declined to be swamped! As the old couplet runs,

> "Charles at this time having no need,
> Thanks you as much as if he did."

There are, it seems, only about thirty Fellows eligible to four professorships, the lucrative situations of librarian and registrar, and two or three hospital appointments; so that the arguments against swamping are of a very solid kind. Mr. Carmichael, indeed, alleges that the entire number in the College of Physicians, including honorary Fellows and Licentiates, is scarcely a hundred, while the College of Surgeons contains more than six hundred; and the probable number of physicians and surgeons admissible into the proposed united College amounts to about two thousand three hundred more; yet the surgeons are willing to allow one-half of the Council of the new College to consist of members of the College of Physicians for the next ten years, or even longer. But it certainly does not require the acuteness of a Graves or a Stokes to see that long before the ten years were over, the process of swamping would have been completed; the hundred could never resist three thousand; each bony obstacle would have been removed by so many absorbents. "Is it rational or just," continues Mr. Carmichael, "that, opposed to this great body, thirty gentlemen, no matter what their merits may be, should be permitted to thwart or prevent the accomplishment of a great national object of vast utility?" Why, this is precisely what would be said, after the union, by the surgical to the medical half of the Council:—You represent only a hundred physicians, and we are the delegates of all the practitioners in

Ireland, and *you* pretend to oppose *us!*

But how can the thirty gentlemen at present thwart the three thousand? Suppose thirty officers, prosperous and powdered, were to refuse to be balloted for at the United Service Club, would this ruin the society? Now our opinion is, that the best and perhaps the only method in which physicians and surgeons can be advantageously united, is by a society in the nature of a club, the United Service Club offering the best possible example of such a junction. Physicians and surgeons might here meet for all the objects of scientific intercourse and good fellowship, without any petition to Parliament, without any swamping of the thirty gentlemen, and without broaching the indivisibility of physic and surgery—a bit of sheer nonsense, falsified alike by history and common sense*.

We more than suspect that, when the amalgamationists go up to Parliament with their swamping petition, they will be answered as the one-faculty people were by Dr. Lushington, "Good morning to you, gentlemen!"

We will conclude this subject on an early occasion; meanwhile we subjoin the Resolutions passed at the meeting.

EXAMINERS IN THE UNIVERSITY OF LONDON.

Anatomy and Physiology—Mr. Kiernan, F.R.S.; Dr. R. B. Todd, F.R.S. The number of candidates amounted to nineteen.

Comparative Anatomy and Physiology—Dr. Roget, Sec. Royal Society. The number of candidates—eight.

Medicine.—Dr. Billing; Dr. Tweedie, F.R.S. The number of candidates—nine.

Surgery. — Mr. Bacot; Sir Stephen Hammick, Bart.

Materia Medica and Pharmacy.—Mr. Pereira, F.R.S. The number of candidates—seven.

Midwifery.—Dr. Locock. The number of candidates—eight.

Chemistry. — Mr. Daniells, F.R.S. The number of candidates—four.

RESOLUTIONS

PASSED AT THE GREAT MEETING OF THE PHYSICIANS AND SURGEONS OF IRELAND, MAY 29TH, 1839.

Richard Carmichael, Esq. in the Chair.

Moved by Professor Porter; seconded by Sir James Murray:

Resolved—That we, the physicians and surgeons of Ireland, having expended large sums of money and much time and labour in the acquisition of professional knowledge, and many of us being engaged in the performance of important duties to the public, we feel that it is not unreasonable for us to expect from the government and the legislature protection equal to that afforded to the members of the liberal professions.

Moved by Dr. Kidd, Armagh; seconded by Professor Hart:

Resolved—That it is the opinion of this meeting that we are not protected, inasmuch, as while we have voluntarily submitted to a lengthened course of medical study, and trying examinations; and while we have contributed large sums to the revenue in the form of stamp duties, yet our services are constantly enforced in the administration of public justice, without any, or with insufficient, provision being made for our remuneration.

Moved by Dr. Macartney; seconded by Professor Hargrave:

Resolved—That it is the opinion of this meeting that the cause of all these evils is to be traced to the existence of divisions and separate interests among the members of the medical profession; and that their effectual remedy is to be sought for in a permanent union.

Moved by Dr. O'Beirne; seconded by Dr. Jago, Kinsale:

Resolved—That the true basis of such union should be a similarity of studies, pursuits, and interests; and that we, the physicians and surgeons of Ireland now assembled, do declare that medicine and surgery are one branch of science and one profession, and that the separate practice of certain departments by distinct individuals is merely an expedient division of labour, having no reference to education or to general professional interests.

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* The Hippocratic oath says, "I will not perform lithotomy, but leave it to those skilled in the operation."

Moved by Dr. Bullen, of Cork; seconded by Professor Williams:

Resolved—That it is therefore our opinion that a legislative measure should be sought for by us to unite the medical profession of Ireland into a corporation upon such principles as shall constitute them one national faculty, and thereby identify in feeling and interests the great mass of provincial practitioners with their metropolitan brethren.

Moved by Dr. Orpen; seconded by Dr. Jones, of Waterford:

Resolved—That to promote so desirable an end, steps be at once taken to form district medical associations throughout Ireland, which shall be composed of all practitioners in medicine holding degrees or diplomas in medicine or surgery from any of the colleges, corporations, or universities, at present legally authorised to grant the same, who are of irreproachable moral and professional character; and who are not engaged in the business of retailing drugs, or compounding the prescriptions of others.

Moved by Dr. Cranfield, of Enniscorthy; seconded by Dr. Cane, Kilkenny;

Resolved—That the members of such district associations shall elect from among themselves a president, vice-president, secretary, and committee; that they shall have the power to nominate delegates to represent their interests at the general meetings of the profession; and that the duties of such associations shall be to obtain local information regarding all matters of medical police; to settle disputes among their own members; to watch over their local interests; and to communicate with a central metropolitan council.

Moved by Dr. Jacob; seconded by Dr. Dunn, of Drumsna:

Resolved—That the following are the principles which should be held in view in constructing the constitution of the new college, which it is proposed to establish:—

A. Fundamental regulations with regard to the education of all persons proposing to enter the profession of medicine, to be permanently established.

B. Compliance with such fundamental regulations to be rewarded with the licence of the college, conferring free and equal rights to all professional practice, offices, and emoluments.

C. All persons so licensed, to be enrolled as members of the corporation, upon the expiration of a certain probation, provided only they can produce evidence of an irreproachable moral and professional character.

D. Every individual so enrolled to be thenceforward free to vote, and act in the college, in every corporate capacity whatsoever.

E. A general meeting of the whole college to be held on the last Wednesday in May in each year (being the anniversary of the present congress), to which it may be lawful for the district associations to send representatives, the business of such general meeting being to elect a president, secretaries, and an executive council, which shall carry on the government of the College during the ensuing year; but shall at all times sit, deliberate, and vote with open doors.

F. A general meeting to be called at any time by the council, or upon a requisition signed by at least twenty members.

The title of this college shall be the *Royal College of Medicine and Surgery in Ireland*; and it shall be to all intents and purposes a union of the two branches of medicine and surgery into one faculty.

Moved by Dr. Tuohill; seconded by Dr. Reardon, Tipperary:

Resolved—That at the first formation of the new College, all persons holding degrees or diplomas in medicine or surgery, from any of the colleges or universities at present legally authorized to grant the same, who have been five years in the practice of their profession, not following the business or profession of a retail druggist or apothecary, and who can produce evidence of irreproachable moral and professional character, shall be enrolled as members of the corporation, upon payment of a sum not exceeding 20 guineas.

Moved by Professor Benson; seconded by Dr. M'Cormac, Belfast:

Resolved—That persons similarly circumstanced, but who have not been five years in practice, shall, on the payment of a like sum, not exceeding 20 guineas, be enrolled as Licentiates of the College, and shall be held qualified to be enrolled as members of the corporation, upon the completion of the full term of five years from the date of their original degree or diploma, without further expense."

Moved by Dr. Blackwell, Dunleer; seconded by Dr. Bradley, Castlecomer:

Resolved—That members and licentiates of the College of Surgeons, and fellows and licentiates of the College of Physicians (provided the latter body join the union) shall be exempted from any such payment, they having already paid large sums, and now possessing exclusive rights in the present colleges.

Moved by Dr. Macdonnell; seconded by Dr. Langley, Nenagh:

Resolved—That persons now enrolling their names, and pledging themselves to support the foregoing resolutions, shall

together with the members and licentiates of the College of Surgeons, and of the College of Physicians (in case that body join in the union), constitute an association to continue in existence until the new charter or act of incorporation shall have been obtained, and that the provisional body so framed shall be constituted as to its officers, meetings, &c., as nearly as possible upon the principles already laid down for the constitution of the new College.

Moved by Dr. Nugent, Cork; seconded by Dr. Healy, Ennis:

Resolved—That a provisional council, secretaries, and president, be now elected, and that the business of organization be at once commenced.

Moved by Dr. O'Grady, of Swords; seconded by Dr. Colohan, Galway:

Resolved — That Richard Carmichael, Esq., be president of the provisional council; that Dr. Maunsell shall be secretary; and that the council shall consist of the committee of correspondence of the College of Surgeons, with the deputies of the local associations now existing, or hereafter to be appointed, with power to add to their number, and to communicate with medical associations in the sister kingdoms.

Moved by Surgeon White; seconded by Dr. Kingsley, Roscrea:

Resolved—That it is our firm conviction that the interests of the public, and of the medical profession, require that encouragement should be given to a class of scientific apothecaries, whose time and attention would be exclusively devoted to the preparation and compounding of medicines, and who would thus have an opportunity of raising the profession of pharmacy from its present degraded condition in Ireland, to a level with that which it occupies in France and Germany; and that we think such encouragement would be best afforded by the establishment of a college of pharmacy; by the prevention of medical practitioners from keeping shops for the sale of drugs, or compounding the prescriptions of others; and by affording to regularly educated apothecaries protection, by giving them an exclusive right of dealing in medicinal articles, and such other advantages as could fairly be granted to them by the legislature.

Moved by Dr. Walsh, of Tullamore; seconded by Dr. Morrison:

Resolved—That we disclaim all intention of interfering, by any of our proceedings, with vested rights now enjoyed by any individuals.

Moved by Dr. Tabuteau; seconded by Sir A. Clarke:

Resolved—That the establishment of a relief and widows' fund be recommended to the attention of the provisional council.

(Signed) R. Carmichael,
Chairman.
H. Maunsell, M.D.
Secretary.

Mr. Carmichael having left the chair, and Dr. Macartney having been called thereto, the following resolution was moved by Dr. Bewley, of Moate, and seconded by Dr. Montgomery, of Carrickmacross, and unanimously agreed to:

Resolved—That the best thanks of the meeting be given to Mr. Carmichael for his admirable conduct in the chair.

(Signed) J. Macartney, M.D
Chairman.
H. Maunsell, M.D.
Secretary.

PROCEEDINGS OF COUNCIL.

Wednesday, June 12th. — Resolved: That the day of meeting be in future Saturday.

June 15th.—Resolved: That the Council recommend district associations to be immediately established, as nearly as possible according to the general plan laid down in the following resolutions passed at the Congress:—

Resolved,—That to promote so desirable an end, steps be at once taken to form district medical associations throughout Ireland, which shall be composed of all practitioners in medicine holding degrees or diplomas in medicine or surgery from any of the colleges, corporations, or universities, at present legally authorized to grant the same, who are of irreproachable moral and professional character; and who are not engaged in the business of retailing drugs, or compounding the prescriptions of others.

Resolved—That the members of such district associations shall elect, from among themselves, a President, Vice-President, Secretary, and Committee; that they shall have the power to nominate Delegates to represent their interests at the general meetings of the profession; and that the duties of such associations shall be to obtain local information regarding all matters of medical police—to settle disputes among their own members—to watch over their local interests, and to communicate with the central metropolitan council.

And that the secretaries of such associations be requested to put themselves in communication with the council as speedily as possible.

SMALL-POX AT SYDNEY.

There has never been, in the memory of the oldest colonist, so long continued and so severe a visitation as that under which the island has suffered for the last month. We regret to state that although its virulence occasionally abates, yet relapses are constantly returning with increased severity. We may almost say that no individual has experienced one single attack; no sooner does he consider himself convalescent, than he finds himself struck at afresh by the disease with renewed vigour. We believe we are rightly informed when we state that there is no one house in this town or its vicinity, all the inmates of which have escaped attack in a more or less degree. The whole of the inhabitants, from the oldest to the infant, have passed through it—many with unspeakable suffering of weeks' continuance, all with much pain and inconvenience. Those in the decline of life, or of exhausted or injured constitutions, have experienced longer and more virulent attacks than the young and healthy. Perhaps the best method of exhibiting the nature of the disease upon the former will be by relating what we experienced, and which was also experienced by some of our friends. The attack commenced in the usual manner:—Difficulty of breathing, particularly through the nose, a sense of fulness stopping up the passage, an acrid fluid distilling therefrom—an oppressive weight in the forehead—a distressing uneasiness in the uvula, the throat, and the tonsils, attended for some days with loss of the voice—the cough increasing, producing at each paroxysm an excretion of mucus, brought up with great difficulty and exertion. As these symptoms increased, their severity was particularly felt at the approach of evening, until at last the patient being unable to remain in the horizontal posture, was compelled to pass the nights in a chair, for the last hours of which the difficulty of breathing was attended with a sensation in the chest which can be somewhat understood by imagining a dry honeycomb to be there, through the cells of which every respiration passed, and which were destroyed and replaced with a loud crackling noise at each inhalation and exhalation. After continuing in this state for some hours the paroxysm abates, the cough is easier, expectoration of mucus takes place, and exhausted nature sinks into a sort of convulsed repose. During the day the mental and bodily powers are so devigorated that the patient, incapable of exertion, seeks only not to be disturbed, until the night again coming, the above scenes of suffering has again to be undergone. As it would be impossible for the human constitution to stand up long against such attacks, so, after a few nights, the paroxysms diminish in severity, until little by little the mucus becomes thicker, less in quantity, is discharged with more freedom, the wheezing crackling in the throat and head is less felt, and convalescence approaches. The medical treatment which has been found most serviceable in this terrible disease, is simply and alone to alleviate the symptoms, for experience shews they must and will work themselves out. The constant use of thick mucilage of gum arabic, a teaspoonful of laudanum added to a ten-ounce phial when the cough is troublesome—attention to the bowels by saline aperients—if continued pain in the chest, blister. The syrup of white poppies, taking a few drops into the throat when the cough is violent, affords considerable relief. The acetate of ammonia and the nitrate of potassa are usefully administered, as is that best of diaphoratics—the solution of tartarized antimony, in small frequently repeated doses. The free use of demulcent drinks, barley water, &c., and above all, the most rigid abstinence. This course, with the most guarded caution against taking fresh cold, is perhaps as efficacious as any which can be adopted towards the removal of a disease which would appear to submit only to alleviating treatment—to subdue it promptly seeming to be quite impossible.

We have already stated that this affection is evidently atmospheric, dependent entirely upon some constituent with which the atmosphere becomes empoisoned; and until that ingredient is wholly removed by the restoration of the ordinary qualities, in their ordinary proportions, the lungs and perhaps other sources of the vital supply to the human being not being suitably furnished therewith, disease and (in the case of cholera) death too frequently follows.

V. D. L.

Sydney, Jan. 1, 1839.

ON PATHOLOGICAL SECRETIONS IN GENERAL.

By Dr. R. Marchand.

In regard to the inorganic constituents of pathological secretions, these are always the same, unless a peculiar variation in them has been produced by some accidental external influence. Iron exists in all, but I have sought for copper, manganese, and titanium, in vain. I have universally found the idea, that titanium

forms a constituent of the blood and of the renal capsules, to be ungrounded. Potash is present in greater quantity than soda; ammonia is never absent. Among the acids the phosphoric is very frequent; and I have in two cases found fluoric acid, once in ascites, and once in hydrops ovarii. There is no general rule, and, as might be expected, the relation of the urinary and cutaneous secretions has a remarkable influence. Lactic acid, whose formation appears to be almost primary in the animal organization, seems to be always combined with the basis.

The separation and distinction of the organic constituents of pathological secretions, is much more difficult than those of the inorganic. The constituents are tolerably constant, but they vary very much in quantity. Thus, in the fluid of ascites, I find the proportion of albumen varying from ½ to 14 per cent; but the latter is a very large and very rare proportion, and whenever it is present there is great difficulty in completely separating any other principles.

I have closely examined the combination which is produced by corrosive sublimate and albumen. It is never composed of calomel and albumen, neither does it contain deuto-chloride, but oxide of mercury. The free acid which is found in the filtered fluid, and which appears to indicate the presence of calomel, is thus much more simply explained. I have never found fibrin.

Among the unquestionable substances one may enumerate various kinds of fat. I have demonstrated the existence of the Couerbian cerebral fat, and have found the views of that chemist for the most part correct. Are these kinds of fat found in the spinal cord, or in the nervous substance? I cannot yet convince myself. Most of them have no definite distribution, though in encephaloid tumor, which I have twice analysed, fat containing phosphorus was found. The part which the phosphorus plays is very remarkable, but as yet unexplained. Cholesterine is more generally found than the phosphorized fat. I have demonstrated it in gall-stones of the most varied kind, in a hydrocele, in a human brain, in hydrocephalus, in encephaloid tumor, and in ox's bile. I believe we must assume that it exists previously in the blood. Salivary matter is very rare. Colouring matters are very frequent: that of the bile is rare; those similar to that of the blood are most common; and without doubt real blood not unfrequently occurs.—*Müller's Archiv*, 1839, Hft. 1.

ON THE FORMATION OF UREA IN THE ANIMAL BODY.

In illustration of this subject, Dr. Marchand has employed a modification of the experiment of removing the kidneys from dogs that had fasted for many days, and then seeking for urea in the blood (see Müller's Physiologie, Bd. 1. p. 586.) He has not starved the dogs on which the experiments were performed, but has fed them on perfectly pure sugar, which he had ascertained by the most careful examination to be entirely free from azote. He fed a large, healthy, and strong sheep-dog for 14 days with milk, to see how large a quantity of urea the urine of an animal thus simply nourished would contain. After the first five days he found 2·6 per cent. and in the next five days 3 per cent. at which proportion it remained stationary. The animal was now fed with perfectly pure distilled water, and pure sugar, of which he took 10 ounces daily. After six days, in which the dog appeared in very good health, the urine contained 2·8 per cent. of urea; in the next five days only 2·4 per cent; and after five days more only 1·8 per cent. The animal was now very thin and rather weak, but there were no ulcers on the cornea such as Magendie speaks of. He was now fed again with milk and *bouillon*, on which he rapidly recovered himself; and it was interesting to see that the proportion of urea in the urine did not keep pace with the improvement of condition, for the dog had recovered his *embonpoint*, while the urine still contained only 2·4 per cent of urea. After 14 days of recovery under this diet, when the urine contained from 3·2 to 3·35 of urea, the dog was again fed on pure sugar and distilled water. After 8 days the proportion of urea fell to 2 per cent. The renal nerves were now tied, an operation followed by the same suppression of urine, with less danger than that of extirpation of the kidneys. The wounds soon healed, and for six days no particular symptom occurred; then vomiting and diarrhœa set in. Ten days after the operation the jugular vein was opened, and three pounds of blood drawn; from this blood urea was extracted, in a quantity amounting (in its combination with nitric acid) to 4·88 grains.

This fact seems to prove that the urea proceeds from the animal substances already formed in the body, and not, or at least not only, from unassimilated nutriment containing nitrogen.

Dr. M. has also obtained almost a direct proof of the presence of urea in healthy blood. The most remarkable property of

this principle being its power of producing by its mere presence a different crystalline form in common salt than that which is usual, he has used this as a test of its presence. He found this test so delicate, that he could discover by it from 1-10th to 1-20th of urea, in from 100 to 150 parts of water. He mixed 20 pounds of serum of cow's blood with absolute alcohol, and filtered the fluid from the albumen. The fluid was then evaporated to dryness in a water-bath, and the residue was completely exhausted with absolute alcohol; the latter was then distilled off, and the residue was dissolved in water and mixed with some common salt. After a few days some octohedral crystals formed, which were found to be pure hydrochlorate of soda; and as no other substance is yet known capable of producing this change of crystalline form, the presence of urea in healthy blood, may fairly be assumed.—*Müller's Archiv, Hft.* 1, 1839.

SOURCE OF THE NITROGEN IN PLANTS.

At the séance of the Institut of January 22d, M. Boussaingault (whose researches on this subject we have before noticed) communicated a further account of his investigations, from which he argues that certain plants derive nitrogen, not only from the soil and manure in which they are cultivated, but from the atmospheric air. That they abstract this principle from the soil and manure is evident, from the facts that corn grown from the most azotized manure, yields the greatest quantity of gluten; that soils are deteriorated by the growth of plants in various degrees, and that the most nourishing plants (that is, those which contain most nitrogen) are those which weaken the soil the most and the most rapidly. The most fertilizing manures are those that contain most azote; and the most nutritive fodder is also that which contains most azote; and therefore the plants which obtain most nitrogen from the soil are those which also most impoverish it.

But if the stems and roots, or still more the whole plants of part of the crop, be again ploughed into the soil, it is improved; and this seems to show that the plants which have thus served as manure, must have acquired nitrogen from the atmosphere, because they have returned to the soil more of that element than they took from it. In many farms where manure can be had only in small quantities, and where there is no deposit of organic matter from a river, the greater part of the manuring is affected by ploughing vegetable matter into the soil in which it has grown. Thus in those farms from which, by the growth of corn and the supplies of cheese, meat, &c. which they export, there is a constant removal of large quantities of nitrogen, there is little or no other mode in which it can be replaced and its supply maintained, except from that which the plants ploughed into the soil have abstracted from the atmosphere.

The results of M. Boussaingault's late experiments and analyses, is, that in germinating, neither trefoil nor wheat grain or lose nitrogen; that at the same time they lose carbon, hydrogen, and oxygen, in various proportions; that, in further culture, the trefoil, in a soil of silicious sand entirely destitute of organic or other manure, and only under the influence of the atmospheric air and distilled water, acquires carbon, hydrogen, oxygen, and a quantity of nitrogen, appreciable by analysis; and that wheat, under the same circumstances, acquires oxygen, hydrogen, and carbon, but (in a period of three months) not a sufficient quantity of nitrogen to be detected by chemical analysis.

RESEARCHES RELATIVE TO THE CAUSES OF SUDDEN DEATH.

The opinion is still entertained by most physicians that apoplexy is the most frequent cause of sudden death. M. Alphonse Devergie, who has the medical direction of La Morgue—the place where the bodies of unknown persons who die suddenly in the streets of Paris are carried—has endeavoured to ascertain how far this opinion is founded in truth, and has found that sudden death from an affection of the brain is rare. Of forty cases which he has examined, he has found four only in which death resulted solely from an affection of the brain; three in which there was congestion of the brain and spinal marrow; and twelve in which the lungs and brain were simultaneously affected. Sudden death from affection of the lungs alone is the most common. M. D. met with twelve cases of this out of the forty; and if to these we add the twelve examples of sudden death in which the brain and lungs were both affected, we shall have twenty-four out of forty in which the lungs were affected in cases of sudden death. Death from affection of the heart is the most rare. M. D. met with it but three times.

It results from these researches that sudden deaths are occasioned, arranged according to the order of their frequency,—1, from an affection of the lungs; 2, of the

lungs and brain; 3, of the brain and spinal marrow; 4, from hæmorrhage; 5, from an affection of the heart. It is consequently an error to regard apoplexy, that is, circumscribed cerebral hæmorrhage, as the most common cause of sudden death; since of forty cases M. D. has observed an apoplectic collection of blood but once. Sanguineous congestions of the meninges should not be ranked among cerebral hæmorrhages. M. D. has further ascertained that sudden deaths are much more frequent in winter, and more common in men than women. Among the forty deaths noted, but five were of females; and finally, that sudden deaths occur principally in persons from 40 to 50, and from 60 to 70 years of age. —*American Journal of Medical Sciences.*

BOOKS RECEIVED FOR REVIEW.

Elements of the Practice of Medicine. By Richard Bright, M.D. and Thomas Addison, M.D. Physicians to Guy's Hospital, and Lecturers on the Practice of Medicine. Vol. I. Longman and Co. 1839.

A Treatise on the Operation of Cupping. 2d Edition, enlarged. By Monson Hills, Cupper to Guy's Hospital.

A General Outline of the Animal Kingdom, and Manual of Comparative Anatomy. By Thomas Rymer Jones, F.Z.S. Professor of Comparative Anatomy in King's College, London.

Royal School of Medicine and Surgery, Birmingham. Report, 1838. Appendix: the Wareford Trust Deed.

The Analysis and Medical Properties of the Tepid Springs of Buxton: with Cases and Observations. By Sir Charles Scudamore, M.D. F.R.S. &c. &c. Third Edit. corrected and enlarged.

Vegetable Organography; or an Analytical Description of the Organs of Plants. By M. Aug. P. de Candolle, Knight Commander of the Legion of Honour, &c. &c. &c. Translated by Boughton Kingdon. Parts I. to IV. inclusive. With Plates.

The Danger, Irrationality, and Evils of Medical Quackery; also, the Causes of its Success; the Nature of its Machinery; the Amount of Government Profits; with Reasons why it should be suppressed: and an Appendix, containing the Composition of many Popular Quack Medicines. Addresessed to all Classes. By Charles Cowan, M.D. E. & P. M.R.C.S.E. &c.

The Physiognomy of Mental Disease. By Sir Alexander Morison, M.D. Fellow and late President of the Royal College of Physicians of Edinburgh, &c. No. X.

A Treatise on the Diseases of the Eye and its Appendages. By Richard Middlemore, M.R.C.S. Surgeon the Birmingham Eye Infirmay, &c. Vols. I. and II.

Diary of the Rev. John Ward, A.M., Vicar of Stratford-upon-Avon, extending from 1648 to 1679, from the original MSS. preserved in the library of the Medical Society of London. Arranged by Charles Severn, M.D. &c, Registrar of the Med. Soc. of London. Published by permission of the Council. Colburn.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, June 20, 1839.

Bartholomew Gidley, Plymouth. — Arthur Foster Morris Morgan, Norwich.—Robert Pell Rew.—Henry Imlach.—Henry Dusautoy, Petersfield.—Robert Richard Clay, Wandsworth Road. —James Edward Male, West Bromwich.—Mark Anthony Robinson, York.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *June* 18, 1839.

Abscess	1	Fever, Scarlet	7
Age and Debility	24	Heart, diseased	1
Apoplexy	1	Hooping Cough	4
Asthma	1	Inflammation	13
Consumption	32	Bowels & Stomach	4
Convulsions	22	Brain	4
Croup	1	Lungs and Pleura	5
Dentition	4	Measles	10
Dropsy	4	Small-pox	1
Dropsy in the Brain	4	Spasms	1
Dropsy in the Chest	1	Unknown Causes	45
Dysentery	1		
Epilepsy	1	Casualties	5
Fever	8		

Decrease of Burials, as compared with the preceding week . . . 84

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

June.	THERMOMETER.		BAROMETER.	
Thursday . 13	from 56	to 79	29·89	to 29·84
Friday . . 14	52	64	29·81	29·82
Saturday . 15	55	65	29·86	30·02
Sunday . . 16	46	73	30·15	30·17
Monday . . 17	48	75	30·13	30·01
Tuesday . . 18	55	79	29·98	29·89
Wednesday 19	56	73	29 88	29 93

Prevailing wind, N.E.

Except the 14th 15th, and afternoon of the 18th, generally clear.

A violent storm of thunder and lightning, accompanied with heavy rain, from about half-past four till about a quarter past five o'clock, on the afternoon of the 18th: lightning and distant thunder on the evenings of the 13th and 17th.

Rain fallen, ·3 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JUNE 29, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Crystallized sediments or gravel. — This may be regarded as a distinct indication of the disposition to the formation of lithic acid calculus. Therefore, it is of the utmost consequence to attend to this state of things, for if it be neglected, and permitted to proceed uncontrolled, it will sooner or later terminate in something much more serious. Every means, therefore, of eradicating this diathesis should be adopted. Consequently, any deviations from the healthy performance of the different functions, should they exist, are to be immediately attended to and corrected. We have shown, in the previous observations, that frequently the digestive functions are so deranged, that slight errors in diet cause the appearance of lithic acid, in combination with ammonia, in abundance; and when there is a tendency to deposit crystallized lithic acid, they will appear from the same causes. Therefore, a strict attention to regimen, and perseverance in the plan of treatment formerly recommended, will be found essential. It is, however, in this form of the lithic acid diathesis that the use of the alkaline remedies is so beneficial. However, they are not to be relied on solely, but with their use other means, to correct the habit, must be instituted. Thus, alteratives and purgatives become highly necessary. Of the alterative remedies we may use the blue pill, with a little James's or antimonial powder and tartar emetic*, or combined with ipecacuanha; or the Plummer's pill, Pil. Hyd. Chlorid. comp., of which five grains may be given for a dose with advantage. This alterative may be given once or twice a week, at bed-time, and a purgative given the following morning.

The purgative may consist of any active purgatives; but alkaline salts, with a vegetable salifying principle, tartaric acid, for instance, are preferable. Thus, a draught consisting of from ten to twelve drachms of the infusion of senna, holding in solution from half an ounce to six drachms of the tartrate of potass may be given the following morning; or, as Dr. Prout recommends, a mixture of Rochelle salts (potassio-tartrate of soda), and magnesia, or carbonate of soda. By these means the bowels will be kept regular, the digestion improved, and at the same time the tendency to generate lithic acid in all probability greatly controlled. Sometimes sulphate of magnesia will answer better, as those salines mentioned before will not in all cases act as purgatives; but the sulphate of magnesia being formed with a mineral acid, does not undergo decomposition, and therefore excites the bowels instead of the kidneys.

This is the form of the disease in which the use of alkaline remedies, administered

* Antimonial powder, though intended as a substitute for the James's powder, is certainly deficient in some way. I remedy this defect by rubbing together from half a drachm to one drachm of the antimonial powder and one grain of potassio-tartrate of antimony. This forms an excellent combination, and acts energetically, though not harshly, even with children. In some cases, two or three grains of this powder, combined with five of blue pill, or one or two of calomel, make a very good alterative. In peculiar idiosyncrasies, ipecacuanha may be advantageously substituted.

with the necessary circumspection, proves so serviceable. It is evident that the lithic acid is deposited, either because it is secreted in excess in relation to its solvent, or it is precipitated by some other acid, secreted either in the free state, or separated from its base by some more powerful acid, which had been previously secreted in the free state. Hence the urine will, in such cases, present all the characteristics of an acidulous reagency. Now as it is highly probable that lithic acid is seldom secreted in the free state in such excess, but in combination with ammonia, it is evident that the lithic acid separates in the solid or insoluble form, because deprived of its solvent, namely, the ammonia, by the stronger acid. Upon this theory the principles of practice are evident. We must endeavour to neutralize or prevent the agency of the precipitating acid, by altering the condition of the urine. The obvious inference, therefore, is, that we must endeavour to combine the preciptiating acid with a base by which we shall prevent its effects. But as the exhibition of some base forms the appropriate means of neutralizing these effects, we must take care that we do not introduce a base which will itself in any way form an insoluble salt, or cause the separation of some other insoluble compound from the urine. Now the alkalies, from their chemical properties, that is, as they form soluble compounds with the most extensive series of salifying principles, are unquestionably best suited to this purpose. The first consideration, therefore, is, can acids or alkalies introduced into the stomach reach the kidneys, so as to influence its chemical constitution at the moment of its separation from the blood? The fact, that acidulous urine may be rendered alkaline by the ingestion of these agents into the stomach, has been long since admitted, and indeed proved. In a previous lecture* I pointed out the fact, that the alkalies might be detected in the urine of those who took those substances internally; and it was shewn that the salts of the alkalies which were formed with a vegetable or destructible acid, were found to have been decomposed, and chemically altered *in transitú*, and the organic acid was changed into the carbonic. And, indeed, we found that these salines might be administered in such quantities as to render the urine absolutely alkaline, and so cause the precipitation of the phosphates. Therefore, these remedies will enable us to produce such a condition of the urine as will prevent, or is inconsistent with the separation of the lithic acid. Then the question presents, to what individual of this class should we give the preference? These are those which have been most recommended, namely, soda, potass, and magnesia. Soda, perhaps, is objectionable, because lithate of soda not only forms the composition of those gouty concretions, named "chalk stones," but has been found constituting the greatest and chief portion of urinary calculi. I here show the lithate of soda, as forming those "chalky concretions," as they are called, thrown off from the joints of gouty patients. Sir B. Brodie shows a specimen of a urinary calculus of lithate of soda*, formed, probably, by the too free use of soda to correct the lithic acid diathesis. But such a result could only occur from very great inattention, and from a neglect of the common precaution of examining, from time to time, the chemical condition of the urine in relation to acidity or alkalinity. The object of the alkali, as already stated, is merely to neutralize the precipitating acid, and to prevent its depriving, either directly or indirectly, the lithic of its ammonia. Beyond this the exhibition of alkaline remedies should never be pushed. Still, however, in many cases, the lithic sediments in the urine contain an intermixture of lithate of soda. Therefore, perhaps, upon the whole, although soda may form the more agreeable alkali, yet potass may be the safer.

Potass, it has been already shown, may be detected in the urine, more particularly as a carbonate, and consequently if administered in proper doses, will prevent the separation of the lithic acid, and allow of its passing in combination with ammonia in solution in the urine.

How, then, are these alkalies to be administered? Are they to be given in their caustic or their carbonated state? But few stomachs can bear the necessary quantity of caustic alkali; and, indeed, it has been found from experience, that all the benefit to be derived from the exhibition of alkalies may be obtained from their milder compounds. It appeared that all the suitable alkaline combinations, that were constituted with an organic acid, were decomposed and converted into carbonates; consequently it would here appear that we might as well administer at first the salt which is ultimately formed; and

* In the GAZETTE, Feb. 16th.

* "Lithate of soda.—This is a rare calculus, of a white colour, like the chalk stones of gout, probably formed where a patient, having a lithic acid diathesis, takes large quantities of soda. I was first informed of the existence of this kind of calculus by Dr. Prout. In our collection of calculi you will see a fine specimen of it, with a deposit of pure lithic acid on its surface. Probably there is a nucleus of pure lithic acid also." —Brodie on Calculous Diseases; also, MED. GAZ., vol. viii. p. 130.

this, indeed, has been frequently practised in the administration of the beverage known as soda-water. In this a quantity of bicarbonate of soda is dissolved in a large proportion of water impregnated with a considerable excess of carbonic acid, condensed under pressure. Bicarbonate of potass may be given in a similar way; and the Liquor Potassæ Effervescens of the Pharmacopœia, in which a drachm of bicarbonate of potass is dissolved in a pint of distilled water, highly impregnated with carbonic acid, forced in by compression, affords a convenient formula. Perhaps these, and especially the preparation of potass, are the best antilithic agents. But it will often happen that the stomach, especially of the more dyspeptic patients, will not bear the severe distension caused by the great expansion of the superfluous carbonic acid now relieved from pressure, and still further increased by the temperature of the stomach; and yet such stomachs will not endure the alkalies in their caustic state, nor yet in the state of bicarbonates. I have known very many instances of this sort, and where so much irritation was produced, that the alkalies could be exhibited under neither form of preparation. In such cases neutral alkaline salts, such as the citrate of potass or soda, will be borne readily, and without that distressing flatulency and eructation which results from the hypercarbonated alkalies, or that urinary irritation which in some constitutions is invariably produced by the carbonates, and even the bicarbonates, of these bases. This must depend upon some peculiar sympathy of the kidneys and bladder with the stomach, for from either formula the result is the same—viz. carbonates; but yet in that resulting from the decomposition and conversion of the citrate there is not that liability to urinary irritation which occasionally results from the carbonates themselves. I think, too, the citric acid* preferable to the tartaric, the use of which is so general under the form of Seidlitz powders, to which there is the same objection as to the carbonates surcharged with carbonic acid

It is sometimes necessary to add some narcotic, hyoscyamus, or even opium, to the citrate of potass or soda, and the irritation which they might otherwise occasion will be thus prevented. In many cases, too, where the alkaline carbonates can be endured, they may be given with some of the vegetable bitters, as infusions of gentian, quassia, colombo, &c.; or many prefer to take the alkalies in the malt drink or beer which they use at their meals. But upon such points no invariable rules can be laid down; and the application of individual methods must, in the great majority of instances, be left to the discretion of the practitioner himself. All that can be done is to lay down general principles for his guidance.

When the alkalies disagree in every form, some of the alkaline earths have been given. Lime-water has been given as a lithontriptic, or, more properly speaking, as an anti-lithic; but the very great insolubility of lime—the only form in which it can well be effectual—renders it objectionable. A pint of water dissolves only about 11·6 grains of caustic lime; and the lime in its caustic state is so harsh and injurious, that it may be considered as even worse than the alkalies themselves. The great mildness of magnesia would naturally induce a trial of its efficacy as a substitute for the alkalies, when these cannot be used. We have two preparations in the Pharmacopœia—namely, the carbonate; and magnesia (the *magnesia usta* of the old Pharmacopœias). These, though not so efficacious, yet have been found capable of arresting the growth of calculi, or preventing the separation of lithic acid from the urine. The dose is from one scruple to one drachm. But there are some objections to these medicines:—First, if administered in a healthy state, they are liable ultimately to induce acidity, for the stomach seems to adopt this mode of getting rid of the earth. Thus the earth is dissolved by the acid generated, partly voided as a soluble magnesian salt, and partly carried into the circulation, so as to affect the chemical condition of the urine. If this do not take place, magnesia is apt to concrete into calculous masses in the intestines, which become consolidated by means of the mucus. Thus Dr. Marcet says, "Some human intestinal concretions, entirely composed of common carbonate of magnesia, were described some time ago by Mr. E. Brande, who satisfactorily accounted for their formation, the patients having been in the habit of making a daily and most wanton use of magnesia, which,

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* I have found the following formulæ both efficacious and so mild, that even children will readily take them:—

℞ Potassæ Carbonat.; Acid. Citric. utriusq. scr. j.; Aquæ Cinnamom. dr. ij.; Aquæ Destillatæ, oz. j.; Syrupi Rosæ, vel Sacchari Alb. q. s. ad grat. saporem. Ft. haustus ter 4ve in die (vel p. r. n.) sumendus.

The slight excess of citric acid renders it more grateful to the stomach, and more palateable to children; but it is evident that a slight predominance of either acid or alkali may be given, according to the views of the prescriber. Soda may be substituted for potass, merely adjusting the equivalent of acid.

with the assistance of a little animal mucus, had consolidated into masses of a formidable magnitude*." It is further objected, that as magnesia forms a principal part of the triple phosphate—a species of calculus—that it does not seem so well suited to the object in view as the alkalies. Dr. Marcet observes upon this:—"But there is another and more important objection to the indiscriminate use of magnesia, which is, that this earth being the base of one of the most common species of calculi—the ammoniaco-magnesian phosphate—there is nearly an even chance, when magnesia is prescribed without any previous knowledge of the nature of the calculus, that it will prove injurious, not only by affording the principal element of that calculus, but also by neutralizing in the *primæ viæ* any portions of uncombined acid, by means of which the calculous matter might have been held in solution†." And he further states, that he had seen within a few years several instances of patients who, either under the direction of their medical attendants, or impelled by popular practice, for the removal of gravel or calculi of the fusible or magnesian kind, persevered in the use of magnesia, till an examination of the sand deposited by the urine shewed them the error of their practice.

Upon this, however, it may be observed, that the objection here urged against magnesia would apply equally to every alkaline remedy. For instance, if I add to this urine a little potass or its carbonate, the triple crystals, as you see, precipitate. This I shall prove to you by the blow-pipe; for, as you see, the precipitate fuses and gives off ammonia. Here they act by neutralizing that excess of phosphoric acid which holds the triple or the fusible crystals in solution. Also, the dangers arising from the ignorant exhibition of remedies in calculus, are incidental to all the species, and therefore the same objections will apply to acids as well as to alkalies.

Notwithstanding, therefore, the objections to magnesia, yet it is by no means an altogether useless remedy in the lithic acid diathesis; and, as in the case of the alkalies, we have only to obviate the objections to its use by remedying its inconveniences. We have seen that, in the uncombined state, and as a carbonate, it is objectionable from its insolubility, and consequent liability to be aggregated into masses by the mucus of the stomach and bowels. This may be prevented by combining it with citric acid. If carbonate of magnesia be dissolved in a solution of citric acid, a very agreeable solution of citrate of magnesia may be obtained; and there are but very few stomachs with which it will not agree*. It is, however, to be clearly understood, that the alkalies, and of these the potass, are by far the more effectual.

The use of the alkaline remedies is to be persevered in for an adequate, and frequently a considerable, length of time. The time required will depend upon a variety of circumstances—the severity and obstinacy of the disease, and the condition of the urine. Indeed nothing but the strictest attention, and the occasional examination of the urine as to acidity or alkalinity, can justify any practitioner in continuing the use of alkalies or acids in the treatment of urinary diseases. A want of attention in this particular may be attended with a decidedly alkaline condition of the urine, than which there can be nothing more destructive to the bladder. When we find that the urine has by these means become neutral, the use of the alkali should be suspended for a time, or the quantity diminished; and by this means we shall be able to prevent the farther separation of the lithic acid. During the above plan, the occasional use of the alterative will prove very serviceable, and should not be neglected, as also the occasional exhibition of the purgative.

I have in some instances, where the crystallized form of lithic acid seemed associated with an inflammatory tendency, found general bleeding, with cupping or leeching the loins, with counter-irritants—for instance, ammonia or mustard sinapisms—applied to the same locality, productive of the very best results. Mercury, too, in such cases may be more freely used, as well as antimonials.

During the above treatment, the patient should avoid all those things which experience has proved to be prejudicial, or to favour the separation of the lithic acid in the insoluble form: such are hard indi-

* Marcet, p. 136. The account by Mr. Brande may be seen in the first volume of the Journal of the Royal Institution. Henry also, some years previously, described similar concretions. The reader, too, may consult Monro's Morbid Anatomy of the Gullet, p. 34; and several of the periodicals.

† Ibid. p. 172.

* The following formula makes up a very pleasant acid, which will prove almost as effectual, if not equally so, as either the carbonate or the pure magnesia, and is not liable to the objections urged against them:—

℞ Magnesia Carbonat. gr. x.—℈j. Acidi Citrici, gr. xv.—℥ss. Aquæ Cinnamon. ℥ij. Aquæ Destillatæ, ℥j. Syrup. Simp. ℥ij. Solve Magnesiæ Carbonatem Ope Acidi Citrici, et finita effervescentia fiat haustus ter quaterve in die sumendus.—This may be rendered slightly aperient by the addition of a little Rochelle salts.

gestible food, doughy dumplings, and the use of hard waters. Dr. Prout says that he has known warm sea-bathing particularly beneficial, though, in other instances, he has known the gravelly deposit to be increased under its use; but this he is disposed to attribute rather to the use of the hard waters which generally abound along the coast. By these means, in all probability, the diathesis at this period may be kept in check.

Now here, perhaps, it may be as well to consider how the alkalies act, although, probably, from what has been advanced already, the whole subject has been anticipated. The alkalies have been supposed to act in one of two ways:—first, by entering the circulation, entering into combination with the lithic acid, and retaining it in solution. Secondly, the deposition of lithic acid is supposed to depend upon an acidity in the stomach, which being neutralized by the alkali, the separation of the lithic acid ceases. "In the case of the carbonated alkalies," says Marcet, "this apparent difficulty can be easily explained; for it is obvious that the gaseous acid, possessing but a very weak attraction for the alkaline bases, the alkali of the carbonate may have the power of combining with, and neutralizing in the stomach, any other uncombined acid by which the secretion of lithic matter might be promoted; whilst the carbonic acid, thus disengaged, is expelled from the stomach in its gaseous state*."

Upon this it may be observed, that acidity of the stomach frequently exists without any deposition of crystallized lithic acid; and that this latter prevails without any acidity of stomach; and that in this latter case the use of alkalies exerts the same control over the lithic acid. Therefore this explanation does not meet every objection. It has been already suggested that the lithic acid is secreted as usual, in combination with ammonia; and it has been already shewn, that when crystallized lithic acid is deposited, that the urine contains a free acid. Now this reacts upon the lithate of ammonia, causing, either immediately or mediately, the precipitation of the lithic acid, by depriving it of its ammonia. Therefore the alkali acts by neutralizing this free acid and preventing its reaction. We know also that the alkaline salts, to be effectual, must be constituted with an organic acid. We know also that these salines are converted into *carbonates*, and that lithic acid neither acts on nor is acted on by the carbonates; but that the lithic acid is precipitated by the carbonic. Consequently, if the lithic acid were separated in the free state, the use of the alkaline remedies, as now used, would prove wholly inert. But by the view that the free acid secreted by the kidneys acts by decomposing the lithate of ammonia, we can readily comprehend how the carbonated alkalies may prevent this, because the free acid will expel the carbonic, and saturate itself with its base. It may here perhaps be urged, that even so, the liberated carbonic acid ought to precipitate the lithic acid from the ammonia; but we may observe, that under these circumstances the urine does not appear to contain carbonic* acid, as I have frequently examined the subject; therefore it is probable that the carbonic acid, being volatile, escapes at the moment of its liberation, or suffers decomposition, or is in some other way disposed of. Evidently, however, upon the principle of the lithic acid being generated in excess in the free state, the alkaline salts which exert the greatest influence being converted into carbonates, and these and the lithic acid exerting no reaction whatever upon each other, could have no control upon the appearance or quantity of lithic acid. It may be still farther observed, that urine, under these circumstances, at the beginning especially, contains lithic acid in tolerable abundance. Thus, if you add an acid to the urine rendered neutral by the exhibition of alkalies, as above, it will after a time deposit lithic acid; thus shewing that lithic acid, in some soluble combination, still exists.

So far as we have been considering, the object is to prevent the effects of this diathesis, and, if possible, to eradicate every trace of it from the system during early age, where a tendency to it is hereditary, or that it has become habitual. When children are the subjects, it cannot be too strongly impressed upon the minds of practitioners how necessary it is to attend to this subject at the very first moment. Care and attention on the part of the practitioner at the commencement, in many such instances, will prevent the formation of stone in the bladder—indeed we may say stone can be almost certainly prevented; but if the case be neglected or improperly treated, this most dreadful result is almost sure to follow. I have lately seen two instances of this sort at the Dispensary. From their history, I could ascertain that the symptoms, such as I have described, had prevailed for a considerable time before, and the cases had been treated in the ordinary way, without any special attention to the urinary organs, except attributing the consequences of the urinary irritation—namely, wetting the bed, &c.—

* On Calculous Disorders, p. 165.

* This is to be understood in the free state; it may contain the alkaline carbonate in solution.

to laziness and dirty habits and propensities. On sounding the bladder, in both cases, calculi were discovered very readily; and these patients were subsequently operated on in some of the hospitals: the parents, negligent at first, on discovering the danger, immediately took the children to the hospital. Parents, therefore, are bound to watch carefully over children circumstanced as just described; and, indeed, this care is essential till they have arrived at the age of puberty, after which the disposition to this affection will be much less, and where it has existed, seems to be greatly diminished. But we shall find, that about the age of forty another change takes place in the constitution—and which we are next to consider.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 452.]

IV.—INJURIES OF THE HEAD.—CONCUSSION, COMPRESSION, LESION, AND RAMOLLISSEMENT; THEIR EFFECTS EXAMINED AND COMPARED.

Inflammation during coma.—Complicated case. — Disorganization, partial or general, of brain.—Cases.—Death by lesion of function without perceptible alteration of structure.—Cases.—Confirmed by effects of concussion in the eye.—Cases.—Partial loss of sensation and motion from lesion of cerebral nerves. —Cases.—Effects of concussion do not cease with comatose symptoms. — Disguising and paralysing power of concussion—compared with compression.—Cases of extravasation and ramollissement compared—conclusion. — Indications afforded by pupil and pulse, how to be understood in practice.—Exemplified in cases, showing three degrees of concussion.—Gradually subsiding lethargy.—Absence of all reaction.—Case.

Among the effects of concussion which I described in my last lecture, you will remember that I gave you an instance of concussion "inducing inflammatory effects without any intervening coma from the blow." Such cases are far from rare. Another class to which I shall now call your attention gives the converse of this, and may be thus described:—

In some cases, during the first comatose stage or continuance of coma, particularly if the concussion be complicated by any lesion or lodgement of a foreign body, an exalted action supervenes, and inflammation or irritability becomes developed. The pupil contracts, and the pulse beats sharply.

Case I.—*Exalted Action. Inflammatory or Irritative Stage during the continuance of Coma.*

Thomas Cole, æt. 30, struck, on the 15th of March, by a musket-ball, which penetrated the scalp, over the centre of the right parietal bone, fracturing and depressing a portion. Brought into hospital comatose, with the pupils contracted to the smallest point; pulse full and bounding. Twenty-four ounces of blood were abstracted. He soon recovered from the coma, and could converse.

℞ Hyd. Submur. gr. vj. Pulv. Jalapæ, gr. xx. Pulv. Ipecac. gr. iss. Ft. pulv. st. s. Cold applications. Spoon diet.

2d day. — Semi-comatose condition. Pulse remarkably strong, full, and quick. No paralysis. V.S. ad ℥xx.

10 o'clock P.M.—Strong febrile symptoms. Great pain in the head.

V.S. ad ℥xx.

3d day.—Not so much fever; wanders considerably; does not complain of pain. Bowels have not been acted upon.

Rep. Pulv. Cal. cum Jalapæ.

4th day.—Wanders very much; pulse tolerably quiet and regular; much thirst; bowels freely opened; not so much pain in head; answers questions incoherently at first, but after a short time becomes more collected.

5th day.—Better; pulse quiet; complains of numbness in the left hand and arm (injury on the right side); still a little incoherent; bowels open; tongue pale and clean.

6th day.—Talks incoherently; when asked a question, takes some time to comprehend it, and then answers with difficulty. Memory much impaired; misplaces his words and mistakes them; says he has no pain in his head; pupils rather dilated; tongue drawn a little to the right side. Complains of great numbness of the left

arm, also of hunger. Pulse not above sixty, and soft; bowels open.

(Here is distinctly indicated, by pulse and pupil, diminution of irritation or inflammatory action; also by the hunger, open state of bowels, &c. that the functions of animal life alone were affected; the organic functions unimpeded.)

7th day.—I carefully examined the wound, and made the following note of its appearance and his state generally. The wound made by the entrance of the ball has contracted to a very small opening; the bone is felt denuded, considerably fractured, and presenting irregular surfaces, several portions being evidently depressed. He says to-day he has no numbness of hand, arm, or tongue. Bowels freely opened; tongue clean and moist; pulse presents precisely the same characters as in *Thorn* and *Burne*—it is 64, small, and languid. Slight discharge. In the absence of urgent bad symptoms, it does not seem advisable to perform any operation.

Saline and diaphoretic mixture.

8th and 9th.—Each day expressed himself better. On the 9th, answered clearly and distinctly; expressed a wish for food. Bowels act freely; tongue clean and moist; pulse unvaried.

10th day.—Pulse more laboured, 56, but not hard. Some pain in the head, referred to the forehead. Says he slept well. Tongue slightly coated; pupils natural, perhaps the right in a trifling degree dilated.

Up to the 21st day no variation; pulse gradually rising to 80.

22d and 23d.—Puffiness of scalp in the neighbourhood of the wound; and as matter seemed burrowing, a free incision down to the skull was made the next day, that is, on the 24th, when he had become drowsy, with occasional vomiting.

25th.—Drowsiness much increased; pupils contracted; tongue brown and moist; bowels not very open; utterance thick and difficult; pulse 52, small, soft, and regular.

Cal. and Colocynth pills. Sol. of Sulphate of Magnesia.

26th.—Lethargic; pupils contracted; tongue brown and moist. Passed his motions in bed to-day; last night he got up. Vomiting had ceased the previous day. When roused does not complain of pain in head.

Emp. Lyttæ nuchæ.

27th.—Died.

For a considerable period it is evident that the cerebral system alone was impaired in its power and functions, the injury acting upon the ganglionic only secondarily, by withdrawing one of its sources of power: hence the lowered circulation and remarkable slowness of pulsation. In the later stages, as the power of the cerebral system became affected, the excito-motory became disturbed in a prominent degree—first evinced by the combined act of vomiting, and ultimately by relaxation of the sphincter ani. To the last day before death, notwithstanding the deep lethargy and prostration of power in the excito-motory system, the pupils maintained their contracted state, marking the existence of internal irritation.

Post-mortem.—The dura mater was injected in the meningeal arteries a little more on the right than the left side. Some slight traces of inflammation in the pia mater. Both skull and dura mater torn through, and portions of bone forced into the substance of the posterior part of the right hemisphere. On removing a thin slice of the cerebrum the ball fell out, jagged and flattened on one side; it was situated about half an inch from the surface of the brain. The structure of the brain was ulcerated and destroyed nearly perpendicularly downwards to the roof of the right lateral ventricle. The whole of the right was exceedingly softened; the left firm and natural. No obvious traces of inflammation in the structure generally. Right lateral ventricle filled with turbid fluid, and the whole surface somewhat discoloured, and apparently implicated in the disease. The whole of the dura mater, at the base, was of a bright purple colour. Right cerebellum slightly softened.

And in these facts I think we see an explanation of the apparent contradiction between the pulse and pupils on the 25th day. There seems to have been fluid enough to cause pressure; and it is more than probable its gradual increase was denoted by the gradual drowsiness, deepening into lethargy and paralysis. But while this was slowly forming, not having the same universal, pervading, and potent influence as concussion on the whole fibre of the brain, the inflammatory process of ulceration and *quasi* inflammation of

dura mater, at the base of the brain, was manifested in the contracted pupils.

Wherever lethargy and a contracted pupil are concomitant, and supervene together, it may be tolerably safely predicated, that with inflammation there is also effusion or extravasation, unless there be any considerable depression of bone, or lodgement of foreign body. In this complicated case the four agents were present.

We pass on to another class of effects to be referred to concussion.

Little loss of consciousness or coma at first, but quickly succeeded by disorganization of the brain, partial or general.

The following case I select, as being one of the shortest:—

Case of partial Disorganization following Concussion.

John Medley was struck on the 1st of October, 1836, by a musket-ball, which entered the back of the head at the left side, coursed below the integuments, and was cut out over the parotid gland of right side. The constitutional or sensorial disturbance very slight, and at eight in the evening he was in an easy sleep.

On the 2d day he was drowsy, and rather inclined to wander; pulse was feeble, and very slow.

V.S. ad ʒxvj. Cold applications to the head.

3d.—Moribund; and the 4th he died.

Post-mortem.—The ball was found to have struck the bone below the occipital protuberance, to have driven in a splinter on the dura mater, then passed on externally, and lodged under and to the inside of the mastoid muscle. The dura mater was slightly torn. The brain for some distance about the wound was dark, sloughy, and disorganized; all the vessels were injected, and the ventricles full of serum. The ball had not fractured the skull where it pierced the scalp, but obliquely in its passage.

I am the more inclined to attribute this disorganizing effect to concussion, and neither to contusion nor inflammation, since I have observed disorganization or softening of brain will give, on the other hand, all the symptoms of concussion. Take the following as an example:—

A gentleman was under my care some months ago, aged about 50, having suffered, during the two previous years, from fits of an epileptic character, but differing from true epilepsy in many points. His chief symptoms were tenderness and frequently occurring intense pain at the vertex of the head; pain at the pyloric orifice of the stomach. The pain felt chiefly when he took a false step, or after eating a meal; and so strongly and equally marked were these symptoms, that it was difficult to say whether the head symptoms arose from some morbid state of the stomach or the symptoms of the stomach from the head; and the case was rendered still more embarrassing by the fact, that cupping at back of neck apparently relieved both on one occasion, and on another, leeches applied to the stomach produced a similar effect.

I was called to him suddenly, early in the morning, when one of his attacks had come on, but instead of shortly recovering with memory impaired for a few minutes or hours, he was seized with violent vomiting, and remained totally insensible.

On arriving, I found the pupils a little dilated, the breathing embarrassed, the extremities and skin generally cold. In two or three hours the breathing became more laboured, and ultimately stertorous; the pulse slow, laboured, and feeble.

Dr. James Johnson, who had previously seen him many times with me, in consultation, saw him at my request; and it seemed to both, that effusion or extravasation had probably taken place. There was a glimmer of returning consciousness towards evening: a high febrile action was ushered in by a hot skin and flushed face. This was soon followed by prostration, relaxation of the sphincter ani, and on the next day by death.

The disease was found, on examination, to be extensive softening, amounting to disorganization of the brain in a considerable portion of one hemisphere.

There was one very curious fact connected with this case—viz. as he gradually regained consciousness after each fit, he always complained of an intolerable stench in the nostrils. Whether such a sensation could be produced in a retrograde course along the sentient nerves, by disorganization or disease of the cerebral fibres in which the olfactory nerves termiate, I am not prepared to

decide; but I see no other or obvious explanation for the well-marked circumstance.

The converse of this effect of concussion—disorganization—is also to be found in these cases. Thus it will even cause death by rendering the brain unfit for its functions, without obvious alteration of structure, of which I consider the following case an example.

Case of Concussion, producing Death by Lesion of Function, and not perceptibly of Structure.

John King, on the 16th March, 1837, was struck in the face by a musket-ball, which entered below the insertion of the orbicularis tendon on the right side, passing backwards and downwards through the antrum of Highmore. The orbitar portion of superior maxillary bone, styloid process of temporal, and the occipital bone, corresponding to the right lobe of the cerebellum, were all fractured, and the ball was found lodged in the fleshy parts between the mastoid process and occiput. He was admitted into hospital in a semi-comatose state, with laboured and stertorous breathing.

On the second day, the pulse was very small and thready; coma and stertor had increased. He threw his hand, in quick succession, from the parts of generation to the region of the cerebellum, moaning piteously; he used the right hand only, there being apparently paralysis of the left, indicating the probable site of injury to be the right portion of the cerebellum. In the afternoon he died.

Post-mortem.—The course of the ball has been described. The dura mater was found uninjured, but a small coagulum of blood was effused between the arachnoid and pia mater, at the right lobe of cerebellum. *Both cerebrum and cerebellum appeared perfectly healthy.* There is neither sufficient in the fracture here nor the trifling extravasation of blood to account for death, the brain presenting no obvious alteration of structure. The concussion must have been very violent, and if not by some effect on the power and function of the brain not obvious in any alteration of structure, how was death induced?

These and thus various have appeared to me the effects of concussion, and as all violence to the head implies it, so may they be more or less distinctly traced in all such injuries. Having classed and described in what these effects consist, I am anxious to turn to the state of the pulse and the pupils in reference to them; but first it is desirable to draw your attention to some peculiar effects on the eye from concussion. You will find that in a singular manner they confirm, by analogy, two of the principal effects of concussion, for these are still more clearly demonstrated within the coats of the eye than in the cerebrum—viz. *disorganization in some cases, and in others total loss of function, without perceptible trace of altered structure*—effects which I believe to take place in the brain, and have endeavoured to demonstrate. The following cases shew these in a striking degree, at the same time that they bring under notice some other effects complicating injuries of the head:—

Case of Disorganization in the Eye, from Concussion, probably with violence to Nerves of Nutrition.

Thomas Barber, on the 5th of May, 1836, was wounded in the face; a musket-shot entering the lower eyelid, without injuring the external structure of the eye, passed downwards into the mouth, and was swallowed.

Both pupils became dilated, and acute ophthalmia, with purulent discharge, came on. About the 12th day, coagulum was observed in the lower part of the anterior chamber, and also in the posterior, before the lens in the eye of the wounded side.

He was discharged about the end of the second month, the iris assuming an irregular pointed form, fixed. On looking into the back of the eye, the lens seemed to be absorbed, and the whole eye presented a clear greenish hue. Some weakness of the other eye had been induced.

In a parallel case, where death ensued, the vitreous humour and aqueous seemed converted into coagula, and the lens was softened.

Ophthalmia seems invariably to follow any injury to the ophthalmic branch of the 5th, which sends filaments to the conjunctiva, while the long root of the ciliary ganglion from the nasal branch supplies the interior of the eye with sensibility. We know that when the superior cervical ganglion has been destroyed, inflammation of the eye follows; and from the filaments of this ganglion ac-

companying the nasal and ophthalmic branches, the nutrition of the eye would seem to depend. I infer, therefore, that either by concussion or more directly by the contact of the ball, there was injury to these nerves.

Case II.—This is not interesting only as a collateral evidence of the power of concussion to induce loss of power or function without injury to fibre, but as showing also a circumscribed loss of sensation in consequence of a lesion of nerve.

John M'Naughton.—June 5, 1836. A musket-ball entered the right malar bone, immedately below the edge of the orbit and close to the os unguis, and, passing under these last bones, traversed the face, and came out over the zigomatic process about the centre.

Complained immediately of severe pain round the forehead, which was relieved by his applying a tight bandage.

2d day.—Integuments of right eye swollen and discoloured; complains of severe pain in it. Has a slightly comatose appearance. Bowels have not acted; pulse slow and irregular.

Hirudines xij. oculi.

3d.—Some headache; has passed a tolerable night; integuments less swollen; pain in the right temple.

6th day.—Slough separated from below the right eye.

At the end of the month the entrance of the ball had healed up; the exit, which was like a clean incised wound, had been healed some time before. The vision of the right eye was partially destroyed; the iris had lost none of its power, nor does the eye present any appearance of disease. He was subject to drowsiness on walking about, if on foot for any time. On passing a line from one wound to the other, the ball would seem to have passed immediately across and under the right eye.

There was loss of sensation over part of the face, extending from the lower margin of the eye to the angle of the mouth, including the upper gums and one side of tongue, which had gradually become more circumscribed than it was at first, indicating very distinctly lesion of the second division of the trigemini or fifth pair of nerves. The superior maxillary given off, or rather passing to the gasserian ganglion; and, from the parts implicated, the lesion was probably at, or very near to, its passage across the spheno-palatine fissure. The pulse was very remarkable—50, and irregular in its beat. He could not open his mouth to above half its natural extent. No bone exfoliated.

The following is a very nearly similar case, as regards the original injury, and one of the effects—loss of sensation:—

John Sullivan was wounded on the 5th of May. A musket-ball entered at the root of the nasal bone on the left side, between the inner canthus of eye and the nose; traversed the face deep, and presented behind and a little below the right ear, where it was cut out. The ball took a deeper course than in the preceding case, and thus saved the eye. He complained, however, of weakness of sight in the left eye; but as he had chronic ophthalmia, it might arise from that cause. The dotted line of the diagram shews the extent of loss of sensation, which also include the whole of the right side of the tongue, with some loss of motion affecting his speech, and making him speak as though he had a cleft palate. He was discharged to duty at the end of the second month. Here, evidently, there not only was injury to the second division of the fifth, but some branches of the third or motor division distributed to the tongue and muscles of mastication.

Several other very similar cases it is unnecessary to detail. In all these violent shocks or concussions, by the crushing track of balls across their axis or near them, impaired vision, more or less complete and permanent, is the result.

A gentleman consulted me last year, where a similar effect had resulted from the wheel of a gig passing over his face, crushing the bones of the nose and injuring the forehead. At that time, no appearance of disease could be seen, but lately some opacity of the lens is perceptible.

Let us continue our comparison of the various effects of concussion with those of other injuries.

To successfully distinguish between compression and concussion when both have taken place, is not always possible; and I think the endeavour has often led to error. It has led to the practice of considering, that if after a comatose state, from concussion, or even without that effect having occurred, if some hours or days after, a state of stupor, &c. come

on, the surgeon in such a case had undubitably to deal with compression, and that only. It will be seen by the facts I have already brought forward, that such can rarely if ever be the case; that the effects of concussion do not cease with even the first stupor, but that there are manifold effects assuming many forms, which follow as natural sequences. It is exceedingly rare that some one or other of these do not ensue; and if compression be one of them, it is not compression only that baffles our skill or taxes our diagnostic powers, but compression added to concussion, from which in truth it proceeds. I have endeavoured to show that this very compression may exist by the blood within the vessels, and only by the altered fibre of the brain, induced by concussion. Nay, if lesion, disorganization, and ulceration ensue, we still are among the sequelæ of concussion, when that has existed in the first instance; and if to concussion they add some features or symptoms, which yet remain to be seen, still they are enveloped, pervaded, as it were, by the general characteristics, and controlled by the injurious influences of concussion. I have yet to show that concussion, by its disorganizing effects, will *control the outward manifestations of inflammation, and maintain the action of the heart at its own lowered standard.* It will paralyze and rigidly fix the iris, in despite of inflamed membranes and brain, the natural effect of which is greatly to increase the irritability of the retina, and endue the iris with morbid contractility. It will permit the development of inflammation within the skull, and yet control the manifestation of any increased action throughout the system; where, then, are the unerring guides to be sought for on the supervention of inflammation, lesion, or extravasation? Not in the pulse, not in the iris, neither in the skin; all these it will control at periods, when it has hitherto been deemed to have ceased all action. Without concussion or a blow, compression may often be truly predicated; lesion I doubt if ever, and not always compression; for I have also shown that disorganization and softening will produce symptoms undistinguishable from concussion and compression. Here are two cases—one of compresson by extravasation; the other of softening by disease—how are they to be distinguished? To avoid as much as possible the multiplication of cases, recal the case already given of the gentleman who died of softening of the brain, and compare it with this of compression by extravasation.

Case of Compression and Lesion by extensive Extravasation, caused by the shock of a mental emotion to contrast with a case of Ramollissement, and another of Concussion.

George Frederick, æt. 30, a negro, while in bed at night was alarmed by a man committing suicide in a neighbouring room opening into the one in which he slept. He cried out that he "saw the flash and heard the report!" and did not speak afterwards. This was soon after midnight. Next morning he was found in a state of insensibility; *there was no stertor;* foaming at the mouth; pulse scarcely affected, so little that it was not thought necessary to bleed him by the surgeon who first saw him. Next morning little alteration; he was bled, but the blood flowed sluggishly, and in small quantity. There was no distension of the bladder. He died about thirty-six hours after the firing of the pistol, which seemed to have frightened him.

Examined about 50 hours after death.—The brain was firm; some indurated portions of a darker colour than natural were observed in the posterior right lobe of the cerebrum. There was extensive extravasation of blood, which seemed to have been the cause of insensibility and death. The coagulum was chiefly in the right hemisphere, and probably four ounces or more. It had torn up the brain so as to appear upon the surface; but the chief seat of it was in the medullary portion of the right hemisphere, which had been torn up. Some portion of the coagulum was in the right lateral ventricle. The vessel or vessels pouring out the blood were not ascertained; probably those of the velum, or of the choroid plexus. Some coagulum had passed under the tentorum; none in the left lateral or in the fourth ventricle.

In what do these two cases differ in their symptoms in the first stage? Death was brought on in both in about 36 hours. There was vomiting, and subsequent arterial reaction for a short period in the first; but it is impossible to erect these into the distinguishing

marks to judge between extravasation and ramollissement, and in what do either differ from some cases of concussion with no extravasation or lesion, or only very trifling. In these cases, it must be confessed there is nothing distinctive to mark these two very different forms of injury, from the case I have already given of John King, where extravasation did indeed exist, but in a most trifling degree—where there was no alteration of structure—where the cause was a violent and fatal concussion—for the right arm thrown to the occiput is an exceptional symptom that cannot be erected into a type.

Careful observation, continued through a series of years, of a large number of cases, has convinced me that where concussion exists, it may and often does envelope with its own palsying mantle all other injuries obscuring or warping their symptomatic manifestations; and that extravasation and lesion without concussion do not always present characters distinguishable from each other or from it. And I cannot but consider it most important to the proper understanding and treatment of these injuries that this conclusion should be established; it leads us to view with becoming caution the symptoms which have so long been held certain signs of compression, extravasation, &c., particularly when we know concussion to have existed, and by thus probing the real depth of our knowledge we avoid a blind reliance in false or uncertain signs which, if believed, are calculated to lead to equally erroneous diagnosis and practice. There are symptoms by which we can determine the kind of injury in a majority of cases, but not in all.

Although concussion possesses the power I have attributed to it, and is occasionally developed to the fullest extent, yet in a very great number of cases other actions or concomitant injuries may be detected, and their manifestation even be sufficiently distinct for the diseases from which they spring, to be tolerably confidently and successfully grappled with. Being once fully convinced of the pervading power of concussion, both in its first energy and subsequently on to its decline, we are less liable to be deceived, and better prepared to detect that which points to other actions and causes.

We will now proceed to trace these, and unravel them, as it were, from the changing characters of concussion, and in so doing endeavour to show how the indications given by the pupil and the pulse are to be understood by searching for the controlling influences, which, when first the study of their injuries is commenced, seem to baffle all inquiry, and by their contradiction involve the inquirer in confusion inextricable.

The usual, and therefore apparently the natural effects of concussion on the other nervous centres, is to weaken their action, and hence the circulation and the respiration are lowered, and the action of the heart is depressed, giving a slow and laboured, or sluggish pulse, rarely intermitting; the pulse resembles much in character the breathing; it drags its slow length along—not hard, for there is no increase of force, on the contrary, it is laboured, as if there was a want of stimulus, or *vis à tergo*. Observe a patient comatose in the first stage of concussion; compare the general character of the respiration and the pulse, and you will be struck by the similarity.

The pupil is dilated; generally fixed; insensible to stimulus of light.

In observing the variations from these, endeavour to trace them to their causes, and so obtain indications of the true state of the injury, and the actions going on in the brain. After long and anxious study at the bed-side, if I have not solved all doubts, discovered certain and sure guides in the varying indications—and it would be strange presumption were I to fancy I had—at least have I solved many doubts that beset me when I commenced. I have obtained some indications both for diagnosis and treatment. I failed in gleaning from writers on the subject, and on this ground I hope to communicate information calculated to be useful in your practice.

The usual progress of a case of slight or moderate concussion you have well exemplified in the following case, which I select for the purpose of placing distinctly before you the usual features before I endeavour to put you in possession of the complications and varieties as regards the iris and the pulse.

Case of slight Concussion going through the usual stages.

John Clewes, æt. 22, of usual good

health, stout, middle-sized, and muscular, of fair complexion, and sanguine temperament, was struck, on the 1st of October, with a splinter from a shell, about the size of a bullet, which entered at or rather a little below the internal angle of the right eye, and passed out through the meatus auditoris externus, where a piece of the cartilage of the ear presented itself. The cheek was much swollen on his admission into hospital, and there was slight hæmorrhage from the wound.

Pulse slow, heavy, and compressed; sickness of stomach; severe pain of the head; drowsiness, *complete loss of vision of the right eye*, although it has not apparently been injured.

Half-past 8 P.M.—No sickness of stomach; still appears a little confused, but says that he feels much better. Pulse rather quick, but not strong.

2d day.—Has passed a good night; system tranquil; no confusion of head, and little pain. Pulse moderate.

Pulv. Jalapæ gr. xxv.; lemonade; spoon diet; cold lotion.

3d day.—Complains of great pain in the head.

V. S. ad ℥xx. Rep. Pulv.

4th day.—Improving. Pulse strong and full; bowels confined.

V. S. ad ℥xvi.; Cap. Ol. Croton. gtt. ij. st.

5th day.—Eye closed by the swelling, which extends to the ear; no headache; pulse natural.

6th day.—No unfavourable symptom; he sleeps soundly and easily.

To the 28th day, although cheek enormously swollen, and a piece of bone, including the foramen orbitale inferioris, came away, no one unfavourable symptom or indication of disease from the head.

29th day.—Renewal of pain in the head, with dizziness.

Emp. Lyttæ nuchæ. Cap. Pulv. Jalapæ, gr. xx.; Pulv. Ipecac. gr. ij. st. sumend.

Next day relieved, and succeeding day no pain of head.

Feb. 10th.—The 5th month he was invalided home; he had completely lost the sense of vision in the right eye, although no change in structure could be discovered; sense of hearing in right ear also destroyed. He was subject to occasional headaches and vertigo; his memory, he stated, was impaired. The iris is in a state of semi-dilatation, and not sensible to light.

A more distinctly or finely marked case, shewing point by point the most common and usual course of a case of concussion (independent of the complication of the eye), without serious consequences or deviations, I could not possibly select.

It shews first the comatose symptoms in mild degree; the sickness and pain of head; the peculiar character of the pulse; next the quick subsidence of the lethargic symptoms, and the consequent change in pulse.

The intervening period of freedom from all symptoms, generally from the second to the third day, occasionally to the fourth. The recurring head symptoms, indicating the supervention of irritable or inflammatory stage, diminished secretions, and increased pulse.

The almost equally sudden relief of these by free depletions, and renewed secretions from skin and bowels.

After this the recurring attacks of similar character to be similarly dealt with, and easily checked.

Finally, the peculiar action I have ascribed to concussion in the brain—destruction of function without perceptible alteration of structure, as exemplified in the eye.

The permanently irritable fibre, leading on every application of stimulus to headache, vertigo, &c., which I have also pointed out as the almost invariable consequence of concussion.

In the progress of these cases there is an astonishing similarity; and I could easily detail from my notes twenty so identical, that, but for the name or some unimportant change of irrelevant circumstances, it would be difficult to distinguish them.

You will observe that, in the natural course of concussion, the cases pass through three well-marked stages:—

1. Coma, depressed or paralysed action, which may be confined to cerebral system, or implicate in various degrees the excito-motory and the sympathetic.

2. Exalted action, more or less extended in a similar manner, and varying in degree in each; attended almost in-

variably with suppressed or diminished secretions.

3. Stage marked by irritability of cerebral fibre existing in some for days, and often for life.

ON A NEW AND SUCCESSFUL

METHOD OF TREATING PROLAPSUS UTERI.

By Benjamin Phillips, F.R.S.
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[*For the Medical Gazette.*]

There can, I apprehend, be no question, that a large proportion of the cases of prolapsus of the uterus are occasioned by the absence of that support which, in the healthy condition, it derives from the vagina.

In consequence of increased capacity, produced by frequent child-bearing, or a laxity in the parietes of that organ, the uterus experiences little resistance in descending a certain distance within it; and there can, I think, be no doubt, that where either of these conditions exists, either before or after the capacity to bear children, the remedy should be sought by endeavouring to restore the tone, or lessen the capacity of this canal.

The following case is related for the purpose of laying before the profession the application of a new method, successfully employed, in the treatment of this infirmity.

The principle upon which this mode of treatment is founded is not new, except as regards this disease; it has been employed with great success in the treatment of many fistulous and other openings, which have resisted ordinary modes of treatment. But although frequently employed, it does not appear that the principle upon which its success depends is generally known; and I believe that this knowledge is all that is necessary to make its employment, in an extensive class of cases, very generally successful.

In the winter of 1837, a woman, aged 46, was admitted into the Marylebone Infirmary, suffering from prolapsus of the uterus. She had given birth to many children, and had experienced a slight inconvenience from a trifling displacement of the uterus after the birth of her fifth child; this displacement occasioned her from time to time much uneasiness between each succeeding pregnancy, but had not become a pressing evil until about four years ago. As a means of remedying the evil, pessaries of various shapes had been used; but whatever the shape or size of the instrument employed, she was unable to support for more than a few hours the irritation which they produced.

Her occupation obliging her to be much of the day in the erect position, the prolapsus increased, the uterus projected slightly beyond the vulva, and its further progress was restrained by a bandage.

I found the uterus just pointing into the vulva, the os tincæ directed forwards, but then she had been in a recumbent position for twenty-four hours previously. The tissue of the organ exhibited a perfectly healthy appearance, and it was very easily reduced. The vagina was also in a healthy condition, and there was only a very slightly increased mucous secretion from the parietes.

Finding that reduction was so easily accomplished, and that no structural change was apparent, I was induced to hope that the horizontal position, persevered in for a few weeks, together with the support which might be given to the organ by means of fine sponge introduced into the vagina, would be sufficient to remedy the inconvenience from which the patient suffered.

The bowels were carefully regulated; the sponge was introduced, impregnated with decoction of oak bark and sulphate of zinc, and was borne without discomfort; and the same astringent solution was injected into the vagina three times a day. For six weeks this treatment was persisted in, at first I had hoped with benefit; but in this I was disappointed, and at the end of that time I was compelled to abandon this course of treatment, as the patient's condition was not sensibly better than when it was commenced.

Pessaries of various kinds were now used, in the hope that some particular shape might be found which the patient could bear without much discomfort; but that hope was disappointed.

I now determined to employ some

agent which would destroy a portion of the mucous membrane of the vagina, and produce a suppurating surface, in the hope that the cicatrix succeeding to it would occasion a contraction of the vagina sufficient to constitute a mechanical obstacle to the further descent of the uterus.

I introduced into the vagina Weiss's three-pronged speculum, and, without giving the patient much pain, I was enabled to separate the prongs to their fullest extent. Between each of the prongs the mucous surface of the vagina was exposed to the extent in width of half an inch; upon two of the surfaces so exposed, lunar caustic was liberally applied, and it occasioned very little pain. Before the speculum was withdrawn, the vagina was carefully washed out with tepid water, so as to prevent the caustic from affecting any other portion of the surface.

Liberally as the caustic had been applied, its effects did not appear to have extended beyond the epithelium, and when the eschars were detached, no appearance of a granular surface was presented. Six weeks did I wait in the hope that the irritation at the point might have excited some contraction, but still the uterus descended.

I then resorted to another caustic, from which more energetic effects might be expected: with the same precautions as were used in applying the nitrate, I used the fuming nitric acid, brushing it over a larger surface by means of a camel-hair pencil. The pain it occasioned was greater than that which followed the use of the nitrate, but still it was not severe nor long-continued. The inflammatory action was much more decided; the whole thickness of the mucous tissue sloughed, and a fair granulating surface, yielding a considerable purulent secretion, was established.

For some time the uterus manifested little tendency to descend, but when the patient got up and walked about, at the end of a month, the infirmity returned, though not with the same facility as before. Another month passed; still her condition was not very sensibly ameliorated. She became dissatisfied, and said, that unless any thing else could be done for her, she would go out.

I proposed to endeavour, by means of suture, to bring the sides of the vagina into contact, previously destroying the opposed mucous surfaces. She consented to have the trial made, but afterwards declined, and was discharged.

From the period of her leaving the Infirmary until a few weeks ago, I lost sight of her. It now appears, that from the period of her discharge, the disposition to displacement of the uterus gradually lessened, and for eight months has entirely ceased. Upon examination, it was found that the capacity of the vagina was very materially lessened; that from having been, when I first saw her, unusually capacious, it is now reduced to the size of that of a woman who has not borne children.

In a second, and in many respects a similar case, in which I employed the acid, I had reason to expect a similar success; but I have lost sight of the patient, and I cannot therefore speak with any certainty as to the result of this treatment in her case.

The success of this treatment depends upon our power to cause the production of a fibrous tissue of a peculiar character: well developed, this tissue presents a dull white colour, rarely presenting any shade of yellow or red, neither resembling the muscular structure of mammalia nor birds; it has neither the glistening appearance of aponeurosis, nor the satin-like character of tendons, but it has all the density of tendinous structures:—yet the fibres are not so closely compressed, nor so regularly disposed. In its colour and its elasticity, it bears no resemblance to the yellow ligamentary tissues. It has much more density than the fibrous tunic of the arterial parietes, and does not yield like it to perpendicular pressure. Its appearance is not unlike that of the muscular structure of batrachian reptiles, and its consistency may be compared to the strongest articular ligaments. It is endowed with a retractile power independent of volition, and exercised in an almost insensible but constant manner, which may be increased by the prolongation of inflammation, and which has no other limit than that which may be opposed to it by a mechanical resistance as strong as itself. It was believed by Delpech, that for its production suppurative action was absolutely necessary; that wherever a suppurating surface exists there will it be developed; and that where a wound heals without granulating, there it is not found. The impression existing on my mind is a little different: I think it

may be developed, under the influence of chronic inflammation, without suppuration; and I believe that certain contractions of the rectum support this opinion. To develop it with most certainty, is to produce a suppurating surface; but all substances capable of exciting suppurative action do not produce this tissue in equal quantity, equal density, or of equal force.

There is no cause so energetic in producing this tissue as the action of caloric upon the living body; thus we find it most abundant, and causing the greatest deformity, in certain cases of burn; and there we see the power which it exerts in producing changes of relation the most remarkable; changes against which we vainly struggle, in a large number of cases. This effect is rarely better shewn than in those cases where a burn has affected the neck, and where this tissue brings down the chin towards the sternum.

But although caloric seems to be the agent most capable of exciting the development of this tissue, there are other agents not wanting in power, and among these the mineral acids hold the first place. As illustration of this, I may refer to cases where these acids have been swallowed. If they have had contact with the lips, and have not destroyed life, the tendency to contraction of the oral orifice is irresistible, unless the whole of this fibrous structure so developed, can be excised. A similar contractile tendency will be produced in the œsophagus, causing stricture of that organ.

Besides caloric and the mineral acids, other caustic substances, fluid as well as solid, blisters, &c. are capable of exciting the development of this tissue; in fact, all substances which can produce a loss of surface, and excite a suppurative reparatory action, produce a similar result. It does not seem to be rapidly developed, and its density would appear to depend, not alone upon the agent employed, but upon the duration of the suppurative action. And it may be increased by repeatedly irritating the suppurating surface. If we apply lunar caustic upon such a surface daily, we shall render this structure much stronger and more energetic in bringing the edges together, than if the surface were left to itself.

Again, I repeat that I am not seeking to introduce an agent which is new; I only take credit, if any belong to it, for having successfully applied a very manageable agent to the treatment of a very frequently unmanageable infirmity; and I trust that I shall direct attention to a principle susceptible of very extensive employment in the cure of many diseases to which humanity is subject.

ON THE

EMPLOYMENT OF MERCURY IN IRITIS.

By Richard Middlemore,
Surgeon to the Birmingham Eye Infirmary.

[*For the Medical Gazette.*]

A few days ago a friend called upon me to inform me that I have incorrectly stated, in my work on Diseases of the Eye*, that Dr. Farre was the first to suggest the administration of mercury as a means of arresting inflammation of the iris and deep-seated textures of the eye, and of removing some of its effects; and he further apprised me that Mr. Carmichael, of Dublin, has very properly (?) given to Mr. Saunders the credit of originating that practice, which I have stated to have been first suggested by Dr. Farre. As it is probable other members of the profession may also be led into error, by the perusal of Mr. Carmichael's statement, I beg permission to place the facts of the case before your readers. Mr. Carmichael, in his published speech, is represented to have said—"May I be permitted to ask, from whom did physicians learn the great utility of mercury in inflamed organs? From surgeons. The utility of it (in this country at least) was first practically established by the late John Cunningham Saunders, a surgeon, in the treatment of "inflammation of the iris†." On perusing Mr. Saunders's account of "inflammation of the iris"‡, I find the following measures recommended for its cure:—1, Blood-letting; 2, cathartics; 3, tartar emetic; 4, leeches; 5, lead-collyrium; 6, belladonna; but no allusion whatever to mercury. At page 66, of the same chapter, he says—

* Volume i. page 18.

† Supplement to the *Dublin Medical Press* for June 5, 1839.

‡ A Treatise on some practical points relating to the Diseases of the Eye. By the late John Cunningham Saunders. London, 1816. Page 65.

"But this state (that is, *inflammation*) of the iris sometimes arises from syphilis. Then the general plan of treatment here proposed (that is, bloodletting, &c.) must be changed for the specific remedy, and mercury must be rigorously exhibited." And further, when relating Case 1, at page 68, in which "there were evident marks of inflammation of the iris," "having," says Mr. Saunders, "treated the patient much according to the plan* inculcated in this essay, for the space of a fortnight, but without any success, I was induced to investigate the case with the most particular attention. I found, on examination, a painful and contracted state of the elbow, but no enlargement of the bones or thickening of the ligaments. This symptom, in conjunction with the state of the eye, determined me to treat the case as syphilis." I now proceed to quote a few of the prefatory observations of Dr. Farre, the editor of the work of Mr. Saunders, and here I would state that I know of scarcely any remarks on the treatment of diseases of the eye which contain more useful information — information remarkable alike for perspicuity and originality, and for the comprehensiveness and importance of the principles it unfolds. "The certainty," says Dr. Farre, "with which the mercurial action arrested the deposition of coagulable lymph in *syphilitic* inflammation of the iris, led me to give this remedy a fair trial in *simple* inflammation of the iris, in which the disorganizing process by the adhesive inflammation is precisely the same, however it may differ from the former in its exciting cause. The result of the trial has perfectly satisfied me that the mercurial action *alone*, when properly kept up, is sufficient to subdue the ophthalmia iridis in its most acute stage†." From the preceding quotations, and from an attentive perusal of the entire work of Mr. Saunders, I feel justified in making the following statements:—1. Mr. Saunders did not recommend mercury for the cure of simple iritis, and that medicine is not once mentioned by him for the cure of the simple form of iritis, in that chapter of his work expressly devoted to the description and treatment of iritis. 2. In syphilitic inflammation of the iris, Mr. Saunders, it is true, employed mercury; but not (as, indeed, it is stated in effect by himself) for the cure of the *inflammatory*, but the *syphilitic* portion of the disease. 3. On the other hand, Dr. Farre practically ascertained, and clearly pointed out, the utility of mercury in iritis and and other forms of inflammation of the internal membranes of the eye; and by a clear and somewhat elaborate chain of reasoning, justified the propriety of his practice. Perhaps, however, a fair mode of putting the case would be pretty much as follows:—Mr. Saunders administered mercury for the cure of one of the secondary symptoms of syphilis affecting the eye; whilst Dr. Farre not merely suggested, but urgently recommended, the use of mercury in inflammation of the iris generally, which practice he was, I believe, the *first* to adopt, and the success of which he was the *first* to demonstrate and record.

I hope to be excused for this, I fear tedious, vindication of the accuracy of my published statement in reference to the credit of suggesting a most important improvement in the treatment of ophthalmic diseases, and trust I have done so in a manner which has manifested the most respectful feeling towards Mr. Carmichael, whose claims to a far more important and lasting reward than the "double honorarium" no one is more willing to admit than myself. At the same time I beg permission to suggest, that to recite the services of physicians and surgeons with a view of representing the superiority of the one over the other, is not the best mode of calming existing disquietudes, and of promoting that union and harmony it is so desirable to create and maintain. For my own part I am truly thankful to the improvers of medical science, whether they be physicians or surgeons, and feel gratefully indebted not only to Harvey, but to Wiseman also—not merely to Cullen and Baillie, but likewise to Hunter and Abernethy, and a host of distinguished cultivators of medical science of the present day, who, like the illustrious men whose names I have just recorded, have voluntarily renounced in some

* The outlines of this plan have been already mentioned in the order stated by Mr. Saunders in his work.

† Preface to the second edition, London, 1816, p. xxxviii.

degree the emoluments of productive practice, in order that they might obtain that leisure which was necessary to enable them to arrange and explain their views, and record their experience, for the benefit of the present age, and the advantage of succeeding generations.

ON THE STETHOSCOPE AND EAR.

To the Editor of the Medical Gazette.

SIR,

COMPARATIVE anatomy may ultimately tend to illustrate my subject, but the knowedge of a certain number of principles or laws in acoustics is necessary, to enable us to benefit by this species of reasoning.

Anticipating that the following observations will be favoured with a place in your GAZETTE, and referring to my first and second papers in your numbers of the 15th December and 9th February,

I am, sir,
Your obliged servant,
W. SHAND.

Aberdeen, June 1st, 1839,

On again renewing my observations on the stethoscope and the human ear, I shall advert to certain experiments made with the stethoscope. This instrument I find is formed in a variety of ways, and of different woods: like all other hard bodies, as conductors of sound, it must produce very different effects; and yet I cannot but think, that when the operator finds any instrument to have the desired effect, he should not change it for another, for very obvious reasons.

Some are made round, with the same diameter throughout, and of equal bore when complete, but in several distinct pieces, fitted into each other, and a brass tube in the centre, so as to produce a counteraction in the wood, and a metallic sound. They are frequently made of mahogany or rosewood, without any attention to the length or direction of the fibre. It might be supposed that the object of the maker was beauty, and not utility, and I suppose it is considered that the sound is to pass through the opening, and not the wood; but nature must be coerced yet farther to produce this effect. Every medical man with whom I have conversed, admits that this is not an efficient instrument. They also allow generally that the most simple and plain stethoscope, with a conical or trumpet-formed (not semispherical) end, is found to answer best, and when there is no break or interference with the fibre. Few practitioners use more than the ear division of this description of stethoscope, which is usually about seven inches in length, but it is doubtful whether this is sufficient.

After the sound is collected in the expanded end, it passes by the fibres, and must be ruled in the longitudinal action as in a single string, the length of the wave being determined by the length of the string in both cases; and as the different sounds are regulated in duration by the length of the wave, this should be attended to and the instrument should be of a certain length, probably nine or ten inches, without any break in the fibre, because this must shorten the waves and sounds.

I tried the sonorous power of several stethoscopes of pine, the fibre being long, and the wood free from knot, by applying to the larger end a tuning fork in a state of vibration, the other end being in contact with the ear. There was a circular cap of hard wood upon the ear end, about an eighth of an inch thick, and equal to the width of the pinna.

On using the instrument in this manner, I was very sensible of the vibratory action in the ear, when the two bodies were in contact. On placing cloth in the opening of the stethoscope, and also cotton, I was not sensible of any difference as to the intensity of sound, with or without the material in the aerial passage, nor was sound damped in any sensible degree, when cotton was placed in the concha. I then used a small instrument of mahogany, of straight long fibre, about an inch in diameter at one end, and tapering from the middle to a quarter of an inch at the other end; this was nine inches in length, with a bore in the larger extremity, four inches deep to encourage vibration.

The small end of this instrument was applied to the antihelix, and the tuning fork in a vibrating state to the hollow end, when it communicated sound more loud than might have been expected

from so small a body. I next covered the pointed end with woollen cloth for half its length, to prevent sound escaping from the external surface, leaving the fibres of the wood open at the end where it was brought in connection with the antihelix, and placed cotton in the concha to damp sound at the entrance of the meatus externus, but I experienced no diminution of sound from these means.

These experiments are easily made, and I must regard their results as evidence of the transit of predominant and intelligent sounds, not only by the fibre of the wood, but by the solids and aqueous fluids of the external and internal ear.

ON THE HUMAN EAR.

Previous to pursuing my observations on the physical properties of the ear, it is proper to refer to the general principles that are laid down in the second page of my first essay, and to make a few preliminary remarks on external bodies, because the operations of sound in these may be more easily understood.

An analysis of the organ of hearing must illustrate the laws of sound; but a knowledge of external objects, as connected with acoustics, should pave the way, as the latter are more perceptible, of greater magnitude, effects are more intense, and are exhibited in greater variety; and the ear, like the atmosphere, must conduct without change of character in original sounds. I should also observe that bodies in contact are so much, and so instantaneously influenced by each other, that it is necessary simultaneously to consider them, collectedly and abstractly. Sound, like heat, may be said to enter into all bodies, therefore, as in reference to heat, some may be termed conductors, and others non-conductors, with regard to sound. When the effects of the strings of a violin are considered, those of the body of the instrument must also be considered in connection with the strings, and the influence of the atmosphere on the whole, in order to form an accurate and comprehensive idea of the means by which the various harmonizing sounds are produced and conveyed to the ear.

Sounds produced in the atmosphere by the tuning fork only are very limited; but when it is brought in contact with another body, new vibrations and sounds are produced in that body and other sonorous bodies, if in connection with it; and similar effects extend to their every atom, until the counteracting influence of friction shall bring them to rest. A refined illustration of these principles of action is exemplified when the voice of a singer is directed towards the strings of an open piano, the proper strings are found predominantly to respond to each other and every minute change of the voice.

This may be effected chiefly by a similar degree of tension in the chordæ vocales, the lips of the larynx, and the strings of the piano, but, perhaps, also in a certain degree according to the diameter, and the peculiar composition of the different strings.

There is one material point obvious in this case that the atmosphere conducts without altering the character of sound (otherwise than by varying its intensity), a property which seems to attach to all fluids more than to solids.

If it be an acknowledged axiom, that any body in motion coming in contact with another body that is at rest, the still body arrests the moving body, then a wall does not increase sound by preventing its spread in one direction, nor does water facilitate the passage, or add to the intensity, of sound on this principle merely, or by the smoothness of its surface, but by tremulous action, and in degree in conformity to its expansion and general arrangement of its particles. All still water conducts sound more rapidly and to greater distance than the atmosphere. These effects are most apparent within the tropics, and are particularly exemplified in the locality of the Cobra; therefore, there is reason to conclude that water in all situations, at a similar temperature, is a powerful conductor, although its influence may differ materially by diversities in general arrangement, and from other causes. If the surface of the water be agitated, this must retard and confuse sound, as is the case from the same cause in all other bodies.

When there is little wind the sound of a bell is heard loud, and to a considerable distance. These effects are increased by a light current of air towards the listener; but if the wind be strong in any direction, the derangement of the vibrating particles in the atmosphere lessens and confuses sound.

I have been thus particular in regard to water as a conducting medium, because it has been considered to possess but a very limited degree of conducting influence, and I am not aware that in the organ of hearing this power has been attributed to it—at least, the predominance is given to the aerial over the aqueous fluids, the fibrous tendons, gristle, and bone; and yet all these are to be found more potent and rapid conductors than the atmosphere, apart from each other, and I am not aware why their influence should be less in this situation, where they are adjusted by the unerring hand of the Creator, forming a mechanism that is intended only for conveying the phenomenon of sound to the sensorium. Contrasting the arrangement in this case with external bodies, I must conclude, that in all cases there is more transit of sound through the aqueous fluids and solids than by the aerial passages, were there not other reasons than have yet been explained for belief in this fact; nor is any thing found that can arrest tremulous action and sound in these; whilst transit by the external surface of the auricle, the auditory passage, and the tympanum, is impracticable, without encountering many physical impediments, calculated to damp and derange sound. Sound is unquestionably intended to be transmitted by the atmosphere and the ear to the acoustic nerve, without change in its nature, from the point of its production or formation.

Magendie makes the following remarks in opposing Boerhaave's attempt to prove that all the sonorous vibrations which fall upon the anterior, or rather external, surface of the pinna are concentrated in the auditory passage:—"The auricle collects the sonorous radiations, and directs them towards the meatus externus, in proportion as it is large, elastic, prominent from the head, and directed forwards.

"Boerhaave supposed he had proved by calculation, that all the sonorous radiations or pulsations which fall upon the external surface of the pinna are ultimately directed to the auditory passage. This assertion is evidently erroneous, at least for those pinnæ in which the antihelix is more projecting than the helix. How could those rays arrive at the concha, which fall upon the anterior surface of the antihelix?

"It is much more probable that the pinna itself, in consequence of its great elasticity, which may be slightly modified by its internal muscles, is capable of entering into vibration when influenced by sonorous undulations imprinted on the air. In fact, experience teaches that according as a membrane is or is not parallel to the surface of the bodies which vibrate near it, its oscillations are more or less distinct. Parallelism constitutes the most favourable case."

This distinguished physiologist had evidently predetermined that the transit of predominant intelligent sounds must be by the aerial cavities of the meatus externus and tympanum, also that they are collected on the external surface of the pinna; whilst he admits it to be much more probable that the elastic properties of the body, the tension, longitudinal form, and direction of the fibrous lamina and muscular arrangement, may induce a degree of vibration through them, than that the tremulous waves of the atmosphere, falling on the back part of the antihelix, could by possibility reach the auditory canal. Now when it is considered that the part of the pinna above the concha is frequently formed into projecting curvatures and deep recesses, having no inclination towards the auditory passage, and it is also admitted that sounds which reach the surface are nothing more than the sudden impingement of atmospheric fluid, which recoils from all such bodies at an angle of reflection equal to that of incidence, it cannot in this case reach the meatus, any more than in that which acts between the helix and antihelix, when the latter rises above the former; in fact, in many instances there is no conformity of inclination towards the concha in any part, from the extremity of the pinna. The first and chief objects in nature appear to be to carry the sonorous atmospheric wave over the meatus, and to extend its sphere of action on the solids without admission to the membrane of the tympanum until its sonorous power be exhausted, and it becomes a limited operation of simple pressure, and nature has at the same time adopted means otherwise to damp sound in the membrana tympani, as I trust may hereafter be satisfactorily proved.

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MEDICAL GAZETTE.

Saturday, June 29, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL CONGRESS AT DUBLIN.

MR. CARMICHAEL is of opinion, that if the physicians and surgeons of Ireland would unite in one college, it would be well for the profession and the nation. "We should then be able to repress quackery—to protect our interests—to repel aggression — to regulate our own body, so that those dissensions which might occasionally arise amongst individuals of the same profession shall not obtrude themselves upon the public, making us, as hitherto, a stalking horse of laughter in every town and village, and consequently degrading us in the estimation of the public at large. We should be able to do all this," &c.

Indeed! Only just grant Mr. Carmichael his One-faculty Act, and you will create a heaven upon earth. No quacks without—no irreconcileable feuds within! Hippiatres will no longer cure jaundice at 7s. 6d. a case, nor Sosander produce enteritis at thirteenpence halfpenny per box of pills. Truly did Plato say that hopes are the dreams of waking men. Mr. Carmichael sleeps most sweetly.

But, instead of considering the fancied benefits that would result from a forced fusion of the two higher branches of the profession in Ireland, let us rather discuss some of the real grievances that might be remedied by a wholesome and cordial union—a United Service Club of medical and surgical practitioners. The great point which such an association should impress upon parliament and the public, is, that the miserably low pay given upon all occasions to medical officers is not only unjust to them, but to the commonwealth. If a commissioner is wanted to examine into any thing, no matter what, though little is required but a gentlemanly bearing—and what Mr. Carmichael calls a vague perception that he is to do something for his money—the salary is commonly 1000*l.* a year; if an assistant-surgeon is wanted for the army or navy, the pay is about one-tenth of this amount, though the list of qualifications demanded is so terrific that an Abernethy or a Cline might retire in dismay from the examination. Now if it is for the interest of the state, or, not to use so cold a phrase, if justice and humanity alike demand that our soldiers and sailors should be skilfully tended in their hour of sickness, it is clear that double the present pay would still be an inadequate recompense to their surgeons. It once happened, says a credible writer, that a singer being taken ill, whose salary was 20*l.* a night, his place was supplied by a very inferior person. The pit hissed; on which the performer, no way abashed, cried out, "Gentlemen, are you so unreasonable as to expect me to give you a twenty-pound voice for fifteen shillings?"

At the Dublin meeting, Dr. Kidd, of Armagh, mentioned an instance where an intelligent member of the College of Surgeons was called upon by the coroner to make a post-mortem examination: he was rewarded by an order for two guineas, but this was subsequently cut down to half that sum at the special sessions. The same practitioner examined a soldier, by direction of the War-Office, to see if he was fit for service, and the fee offered him was HALF-A-CROWN! The system of tenders for the office of surgeon to Poor-law Unions, is justly complained of in this country; but we are happy to find, from the speech of Dr. Phelan, one of the Poor-law Commissione s for Ireland, at

the Dublin meeting, that it is not to be adopted there. The medical officers, he says, are to receive "certain reasonable fixed salaries;"—how much that may be, does not yet appear. "Equity," says Selden, "is a roguish thing;" and the "reasonable" of a Poor-law Commissioner may turn out to have as much reason in it as our Union Bastiles have of kindness or justice.

As the call of the Dublin meeting appears to be responded to from every part of Ireland, it is to be hoped that a minimum salary may be fixed by the common consent of the profession, than which nothing less could be accepted, without degradation. It is impossible to conceive that any Poor-law Union should be so small that the medical officer could deserve less than 100*l.* a year; or if his attendance should be confined to the workhouse alone, the same sum would be a very trifling reward for a daily visit. Less than a daily visit is injustice to the patients, unless there is a sound practitioner residing in the house.

One point remains to be touched upon. Dr. Bewley, of Moate, in his speech at the meeting, said, "*We enjoy (unjustly perhaps) a monopoly of the county infirmaries.*" This is a curious fact; to be surgeon to a county infirmary in Ireland, you must be a member of the Irish College of Surgeons; the Lincoln's-Inn diploma will not do. We recollect, that in the panic of 1826, a country woman having changed her local bank notes for gold, was met by a wag, who persuaded her that the sovereign bank had broken, and that it would be best to get her notes back again, which she accordingly did. Our Irish brethren play the part of the wag in the panic: the diplomas coined in Lincoln's-Inn are current from London to Calcutta, from Jamaica to Ceylon; but they have contrived to persuade good, simple Parliament, that they are not fine enough for Killskeara and Ballylochlin. The sovereign bank is distrusted there, and none but local notes will pass. "Oh!" but our brethren will cry from the other side of St. George's Channel, "you mistake the application of the story; we coin the real sovereigns, and the rest of the empire is content with paltry counters: if Worcestershire legs are mangled, that is no reason why we should not protect Cork ones." Be it so; but at any rate let the legislature get out of the present ridiculous dilemma. If English surgeons are not fit to treat fractures and imposthumes, let their education be improved; if they are fit, do not exclude them from the county infirmaries of Ireland.

When Colbert asked the French merchants what he should do for them, their answer was, *Laissez nous faire*—Let us alone; for they had made sufficient advance in political economy to know that trade flourishes most when unoppressed by protecting duties and other varieties of forced encouragement. Now, talent is a kind of commodity, and thrives best when allowed to be exported without passports and permits.

A century ago, the metropolitan counties petitioned against the turnpike act, because, said they, the more distant shires will now be able to compete with us, and send their produce to London. The same motives still operate, though not always so frankly avowed; and as "the whirligig of time brings about its revenges" it is now the remote provinces which exclude the produce of London. Let us trust that the day is not far distant when commerce may throw off its remaining shackles, and surgeons properly qualified may practise in any part of the British empire.

We have been thus diffuse in our criticism on the meeting at Dublin, as

it has evidently some vivaciousness in its composition, and has many men of note among its members—how unlike that strange association which still lingers on here, under the presidency of a Dr. Webster!

MEDICAL LIBEL.

Field *v.* Austen.

An action for damages in a case of libel took place in the Court of Common Pleas, on the 21st and 22d of this month. The plaintiff, Mr. C. V. Field, has practised physic in the parish of Rotherhithe for seventeen years; the defendant, Mr. Austen, is medical officer to the Board of Guardians, in the same parish. It appears, that last year a complaint was made to the Poor-Law Commissioners that a poor woman, named Daly, on being taken in labour, had not received proper attention from Mr. Austen. A letter was sent to the Commissioners, complaining of the defendant's neglect; it was signed H. Flagan, but no such person was known to Mrs. Daly, or her friends, nor did they ever express a wish that such a letter should be written. The letter was ill written and ill spelt; but Mr. Austen appears to have thought that this was merely a blind, and that it really came from Mr. Field. The charge fell to the ground; on which Mr. Austen sent a circular, containing the gravest accusations against Mr. Field, to each member of the board of guardians, and also to Mr. Field himself. In this he not only asserted that Mr. Field was the author of the unsubstantiated charge concerning Daly, but that he had performed a murderous operation on a Mrs. Mason, and that this was not a solitary instance of his malpractice. "Of this character I should say that he was shunned and avoided by every medical man, as a dangerous, ignorant, and presuming fool, and cowardly poltroon. This animal answers to the name of Charles Ventris Field, and he lives in Paradise Row."

Dr. Blundell, who was called for the plaintiff, deposed that he had known him professionally for fourteen or fifteen years; that he "had conferred with him in several obstetric cases, and had not found him more deficient in knowledge than gentlemen generally in that rank of the profession." On his cross-examination, he said that in midwifery he had always reprobated the use of instruments; that his motto was, *arte non vi;* and that instruments were only to be used when there was less danger in employing than in abstaining from them. He had very probably used these terms, "Wild beasts are caged, and yet the accoucheur, with all his instruments of destruction about him, is let loose upon the world."

"Mr. Justice Vaughan.—You would scarcely go so far as to say *labor omnia vincit?* (Laughter.)

"Dr. Blundell.—Almost, my lord."

Mrs. Mason was a patient in the 72d year of her age, who was tapped by the plaintiff for ovarian dropsy, and died soon afterwards, the colon having been punctured by the trocar.

Mrs. Jane Smith deposed to having been delivered by Mr. Field, in 1826, when she felt as if she was being torn to pieces. She could not see whether he used instruments, but the nurse said so: "there was a cut over the right eye of the child, as if done by scissors; afterwards I could not stand up for a month, and then not for five minutes at a time. I could not do any thing, or pursue my ordinary domestic employments for three or four years."

The other cases alleged against the plaintiff were not so strong. A Mrs. Clockworthy was supposed to have been delivered with instruments; there

were large incisions on the head and neck of the child, which died in a few hours. But this was a lingering labour, the patient did well, "expressed herself exceedingly grateful to Mr. Field," and would have sent for him again, had she not removed to too great a distance.

In another instance it would seem that the lever was used, and the child's cheek, forehead, and ear, were cut. The child, now 13 years old, was in court, and seemed in good health. "No marks of any wounds were perceptible," says the reporter, "at least at a little distance."

Lastly, in the case of Mrs. Jefferd, the wife of a lighterman, where instruments were used, the child was cut on the neck, and bled till it died. Mrs. Jefferd had two children before Mr. Field attended her, and they both died in the birth.

Jefferd, the husband, in his examination in chief, represented Mr. Field to have said, that he did not care about killing a hundred such things—and there the phrase ends; whereas, in the cross-examination it runs, "he said he would kill a hundred such things as that to save the woman"—an important difference!

The jury retired for three-quarters of an hour, and then returned a verdict for the plaintiff. Damages, 100*l*.

This is a very brief abstract of a trial which occupies nearly four columns in the *Times* of June 24; but even our compendium may be sufficient to shew its importance. It is a specimen of the never-ending attempts made by society to settle the vexed question of libel. If we allow each man to tell every painful truth of each other man, the accused will avenge themselves with the strong hand, and the social bond is at an end; if we say with our English lawyers, "the greater the truth the greater the libel," the wholesome check of criticism is gone—a check far superior to the formal censures of the law. The verdicts of juries and sentences of criminal courts are, of course, a series of oscillations between these extreme points; and an act of Parliament to amend the law of libel would be merely a limitation of the arc within which the pendulum vibrates. To suppose that any act could exactly define what might and might not be published, would be Utopian indeed. Perhaps, on the whole, the verdict in the instance before us was just; for although the plaintiff does not seem always to have employed obstetrical instruments with the reluctant delay and gentle hand inculcated by the great masters of the art, still but little decidedly unscientific was proved against him in this branch; and the only case where he went quite wrong was Mrs. Mason's. This error may be palliated by his not being an operating surgeon; but we could wish that in London, where so many dedicate themselves to the manual branch of our art, after long years spent in the study of anatomy and surgery, that operations were performed by them alone. But if one great error committed in seventeen years' extensive practice is to justify such a circular as Mr. Austen's, who will be safe?

ROYAL MEDICO-CHIRURGICAL SOCIETY.

June 11th, 1839.

Sir Benjamin Brodie, Bart., in the Chair.

On the Structure of the Corpus Luteum. By Robert Lee, M D., F.R.S

The author commences with a short description of the mature Graafian vesicle in the human ovarium, which he represents as a small spherical pellucid sac, containing the ovum, the granule, and the fluid with which it is surrounded. The vesicle itself he describes as always consisting of

two membranous layers or coats, closely adhering together, the external surface being loosely united to the proper substance of the ovarium by soft cellular tissue, blood-vessels, and nerves.

When impregnation takes place, the coats of the Graafian vesicle and peritoneum covering it burst, the contents escape, and around it a corpus luteum is gradually formed. The author states that the observations of De Graaf, Haller, and others, have proved that the corpus luteum is always formed in that ovarium from which the impregnated ovum has escaped; but it has not been positively determined by them whether the corpus luteum is produced by a thickening of the inner layer of the vesicle, as Professor Baer has supposed, or between the coats, as Dr. Montgomery believes, and if corpora lutea are not sometimes formed in the ovaria of women who have never been pregnant.

The author then proceeds to describe the appearances which he observed in the ovarium of a woman who died in St. George's Hospital, at the end of the second month of pregnancy, which have induced him to conclude that the corpus luteum is formed around both layers of the Graafian vesicle, and not between its coats, or by a thickening of the inner membrane. In the preparation of the ovarium the Graafian vesicle, like a small cyst, consisting of two distinct layers separated from one another, were clearly seen. A drawing of the recent corpus luteum, which had a deep orange colour, was likewise exhibited.

In two specimens of Fallopian tube conception, which were placed upon the table, the Graafian vesicle was likewise seen, surrounded by the corpus luteum. The same fact, the author adds, is still more evident in the ovarium of the gravid uterus of ten weeks, described and figured in the 17th volume of the Medico-Chirurgical Transactions.

In several of the preparations in the Hunterian Museum, at the College of Surgeons, which the author has recently examined, with Mr. Owen, he states that the Graafian vesicle is also seen inclosed within the corpus luteum, and forming its central cavity.

The author concludes this part of the paper by recommending additional observations to be made upon the subject, when opportunities, which are not very frequent, present themselves, in order that the correctness of the view which he has given of the structure of the corpus luteum may be rendered perfectly conclusive. All observations upon the subject, to be decisive, he remarks, should be made soon after impregnation and the date of conception, and all other circumstances should be clearly stated.

The author next proceeds to describe the changes which the corpus luteum undergoes in the latter months of pregnancy, and after delivery; and observes, that it is frequently almost wholly absorbed about the end of the third month subsequent to parturition. Various preparations were exhibited to illustrate these appearances.

In the ovaria of women who have never been pregnant, yellow oval-shaped bodies, he observes, are frequently found, which it is difficult to distinguish from true corpora lutea resulting from impregnations. The greater number of these are produced by blood extravasated within the Graafian vesicles; and he thinks they can generally be distinguished from true corpora lutea by this circumstance, that in the latter the corpus luteum surrounds the Graafian vesicles, but in false corpora lutea the yellow substance is usually contained within the Graafian vesicle. A thickening of the coats of the Graafian vesicle, and the changes it undergoes during menstruation, the author also conceives, might readily be mistaken for true corpora lutea. Various preparations and drawings were also exhibited, to illustrate these statements; and Dr. Lee closes the paper with the following remark, that from all the observations hitherto made on the corpus luteum, we may infer that it is never found but as a consequence of impregnation; that the yellow oval-shaped substances found in the ovaria of women who have not been pregnant, may be distinguished from true corpora lutea by the smallness of their size and irregularity of their shape, the greater depth at which they are situated in the ovarium, the absence of the white membranous appearance of the centre, and by the fawn or yellow-coloured substance being inclosed within the cavity, and not formed around the exterior surface of the Graafian vesicle.

A Statistical Account of 120 *Cases of Carcinoma Uteri.* By JOHN C. W. LEVER, Esq. Communicated by Dr. CLENDINNING.

As the value of the paper of Mr. Lever consists almost entirely in the tables which it contains, it would be impossible to do it justice in an abstract.

The Case of a Girl who voided from the Urethra a number of Entozootic Worms not hitherto described; with an Account of the Animals. By T. B. CURLING, Assistant-Surgeon to the London Hospital.

The patient is 5 years of age, and is not suffering, as far as the author could ascer-

tain, from any disease of the bladder or kidneys. She first passed some of the entozoa in question on the 26th May last, and continues to do so occasionally to the present time; which enabled the author to exhibit some of them alive to the Fellows present, by the aid of the microscope. When first voided, they float separately in the urine; but in a short time they coalesce and coil themselves up together in a ball, at the bottom of the vessel. If allowed to remain in the urine, they live for two or three days. They are of two sizes—the larger being more numerous than the smaller.

Having discovered, by reference to Rudolphi's Synopsis, and other works on the subject, that the entozoon in question has not been hitherto described, the author enters into a minute description of its characters, and illustrates his description by magnified representations of the male and female, as seen under the microscope. From this descripton, which our limits do not permit us to give at length, those who are conversant with the structure of the entozoa will recognize a true nematoid structure. These worms differ, however, from the known genera of this class, in possessing several peculiarities of structure; especially a well-marked annulated body, an anal aperture of a labiated form, and a tegument armed throughout with spines. Referring it, therefore, to the order Nematoidea of Rudolphi, he thus describes its characters:—

GENUS DACHYLIUS.

Corpus teres elasticum, annulatum et utrinque attenuatum, caput obtusum, os orbiculare, anus trilabiatus.

Dactylus Aeuleatus.

Capite obtuso, toto corpore aculeorum serie quadruplici armato, caudâ obtusâ et annulatâ. Habitat in Hominis vesicâ urinariâ.

Remarks on the Acute Form of Anasarcous Tumor of the Scrotum. By R. LISTON, Esq. Surgeon to the North London Hospital.

The object of the author in this paper, is to direct attention to the diagnosis of cases of infiltration of the scrotum with serous fluid, which is often as rapid in its origin, and as calamitous in its consequences, as the effusion of urine itself. Six cases, occurring in the author's public practice, are related, with the view of enabling the surgeon to form a correct opinion of the nature of the mischief, and of directing his proceedings properly and satisfactorily.

CLINICAL LECTURE

ON

OSTEITIS OF THE UPPER THIRD OF THE FEMUR, SIMULATING HIP-JOINT DISEASE,

Delivered, during the Session of 1838-1839, *in St. Vincent's Hospital,*

BY J. M. FERRALL, ESQ. M.R.I.A.

First Surgeon to the Hospital.

Anatomical characters — Walther's case — Causes — Scrofula, Lues, Scurvy — Local injury—Treatment—Local depletion—Cautions — Mercury — Hydriodate of potass — Sir B. Brodie's opinion.

GENTLEMEN,—I have described the symptoms of this obscure disease, and pointed out to you the marks by which you can generally distinguish it from morbus coxæ, with which it is liable to be confounded. In continuing the subject of its anatomical characters, I wish to draw your attention to a plate in the treatise on Spina Ventosa, by Ludovicus Augustin, of Halle, and taken from the museum of Walther. It represents an enormous enlargement of the upper end of the femur, beginning about its middle, and extending upwards so high as to engage the neck of the bone, close even to the head. The head of the bone, however, projects beyond this huge growth, and has all the characters of perfect health. In this case very little motion could have been enjoyed by the limb during life, as the bony growth protrudes in every direction, so as necessarily to meet the pelvis. The tumor is larger, but less solid than the specimen in Sandifort's museum, and appears to consist of a large irregular cavern, surrounded by walls of great thickness. These parietes are evidently a new growth, and present the appearance which you see in those specimens of necrosis. The surface of the bone appears to be perforated by innumerable apertures, and the substance of the mass has the same peculiar effect as if the bone could, like glass in a state of fusion, have been moulded on the surface in shapes of the greatest irregularity.

This case is given as a specimen of spina ventosa. It is impossible to be quite certain, from its appearance, as to the nature of its contents. It may have been, as implied by the name given to it, a large abscess in the bone; or it might have contained the sequestrum of the upper portion of the femur, if this part had undergone the usual changes of necrosis. It might possibly be conjectured that it was an instance of osteo-sarcoma, and that this

large cell contained the gelatinous or other deposits met with in this disease. It does not, in my opinion, correspond with the usual characters of osteo-sarcoma, for the cell is single, and its parietes remarkably thick in appearance, and not broken up or even weakened in any portion of its surface. Whatever may have been its exact nature, it is probable that, like the disease we are considering, it presented during life many of the symptoms which are supposed to be peculiar to disease of the hip-joint.

Causes.—The causes of this disease are obscure. There is no constitutional peculiarity which, as far as my experience goes, seems exclusively to create a predisposition to this affection, although the concurrence of phthisis in the fatal cases would, at first view, appear to connect it with the scrofulous diathesis. You are not, however, to conclude that a disorder is of a strumous character because another complaint of a tubercular nature is developed during its progress. The injury to the general health, and derangement of the nutritive functions incident to a state of long-continued suffering and fever, are of themselves sufficient to account for the supervention of consumptive symptoms. How often do you see, even the short course of an idiopathic fever followed by the rapid development of tubercles in the lungs of persons who had been previously in rude health, and had never exhibited any tendency to pulmonary disease.

The occurrence of suppuration is also to be considered when estimating the agency of this or any acute disease in the production of tubercle; the consideration, however, of this view, would lead us too far from the immediate object of our inquiry.

We may conclude, therefore, that no proof of the scrofulous origin of this disease is afforded by the occurrence of phthisis in the cases which proved fatal. In confirmation of this opinion I may remind you of the cases in which the constitution has sustained the violence of the attack, and the chest has preserved its integrity, through all the stages of the disease. Certain cases, to which I shall allude hereafter, have also displayed a vigour not usual in strumous subjects, by bearing the very active treatment which succeeded in checking the complaint in its early stage. As to the dartrous and scorbutic virus to which our continental brethren attribute the occasional occurrence of hyperostosis and exostosis, I can only say, that we have no evidence of their agency in this class of complaints, nor is it very manifest upon what grounds the opinion rests. I do not assert that venereal taint cannot display itself in the spongy extremities of bones; but I have never witnessed its occurrence. With regard to the cancerous diathesis, we shall presently see that, although not concerned in the production of acute disease in the upper end of the femur, it is occasionally present in more chronic alterations of this part.

The proximate or local cause is scarcely less difficult of detection. I have told you that a patient may retire to rest apparently in health, and towards morning be disturbed by the pain and other symptoms. It has no doubt happened in two instances, that he had used immoderate exercise the day before; and if we were disposed to indulge in conjecture, we might suppose that excessive muscular exertion of the lower limbs, being accompanied necessarily by an increased activity of the vascular system of the parts, had led to a more persistent hyperæmia and its consequences. It would not be so easy, however, to explain why one limb should suffer more than the other; or one part of the limb, or the bone, rather than any of the joints. I was not able to trace the occurrence of local injury, by fall or bruise, in any case which came under my notice, although such an accident might well be supposed capable of determining the situation of the mischief.

There is another mode in which it is possible that muscular efforts might give rise to this affection. If the action of the strong muscles which connect the upper portion of the thigh-bone with the pelvis should have been unusually violent, it is not unreasonable to believe that an unaccustomed degree of tension and stretching of their tendinous insertions might be followed by increased action in the periosteum and corresponding portions of the bone. I was consulted in November last by the parents of a boy, 14 years old, who suffered from the effects of over-exercise in his first trials of gymnastics. He was feverish, and complained of acute pain in both arms, neither of which he could raise to his head. I found the muscles morbidly sensible to the touch; but the parts to which he referred all his suffering, and which were so exquisitely tender that pressure made him scream, were the spaces into which the apex of the deltoid muscle of each arm was inserted. There was, in these situations, a really perceptible degree of deep-seated swelling, which disappeared under the application of leeches and other means of that kind. In this case, there could be no doubt of the existence of inflammation in the tendinous insertion of the muscles, and probably of the periosteum to which they were attached; and there could be as little ques-

tion as to its cause. It would be difficult to verify the origin of periostitis of the upper portion of the femur in an injury of this kind; but its possibility is apparent from the foregoing considerations.

Treatment.—If no other evil resulted from confounding the complaint under consideration with hip-joint disease than the confinement to the position so necessary in the latter case, it would be sufficient to confer a great degree of importance on the inquiry. To "take away the function of the joint" is, in the emphatic language of Sir Benjamin Brodie, the first principle in the management of morbus coxæ, and one without which no other remedy can avail. But the same acute observer remarks in another place, that "the health of the patient suffers, even before abscesses are formed, from the want of exercise as well as from pain and want of rest." This is so true, that the ruin of the constitution, which so often results from the immoveable position of the limb, is only compensated for by the knowledge, founded on experience, that no treatment will be successful as long as the diseased surfaces are allowed to rub and irritate each other.

In osteitis of the upper portion of the femur, there does not, for obvious reasons, exist a necessity for preserving the immobility of the joint. The movements of the limb may be left at the discretion of the patient; for in the early stage, when rest, on principles applicable to all inflamed parts, is serviceable, voluntary motion is painful, and therefore not attempted; and the passive movements communicated to the part by himself or others, and so inseparable from the ordinary attentions to cleanliness and comfort, are neither painful nor injurious.

At a later period, when the inflammation has abated, and when the constitution may be expected to feel confinement, there is no objection to his being moved from his bed to a sofa, or from one room to another, every day, or even being carried into the open air, as a moderate support by cushions placed under the limb will maintain the position most agreeable to the patient.

If you are consulted within a few days from the commencement of the attack, and acute pain with fever are present, you should not hesitate to employ free local depletion. I never saw a case in which I was tempted to direct general blood-letting; the symptoms were rather those of severe constitutional irritation, than of the kind of fever which indicates the use of the lancet. I do not deny that a case may occur, in which the vigour of the patient may give to his fever such a character as to require this valuable measure, antecedent to other treatment. I merely give you the result of my own experience since I first observed this disease. Local bleeding will always be proper and necessary in the early stage, but even here you must be guided by circumstances, and keep in recollection that children are more easily depressed by loss of blood than adults, especially if it is allowed to drain away for any considerable length of time, even though a large quantity may not have been withdrawn. I recommend you, therefore, to place a cupping-glass over the leech-bites, and remove as much blood as you think prudent, with as little delay as possible, and then carefully close the wounds. Generally speaking, you will find it easier to secure the leech-bites and prevent subsequent hæmorrhage, when a cupping-glass has been applied, than when they are treated in the ordinary way. The plan has this advantage also, that the patient is less fatigued and irritated by this shorter process, which may be accomplished in twenty or thirty minutes altogether. Should the symptoms require a repetition of the leeching, it should be conducted in the same expeditious manner; the pain, local tenderness, and fever, being your guides. As to the situation most advisable for the depletion, it must, of course, depend very much on the degree of tenderness on pressure. The pain is often referred by the patient to parts below the seat of the actual mischief: if you wish, therefore, to make a selection, you must do so by a careful manual examination of the parts.

As happens in all forms of inflammation, you will meet with cases where warm applications are more soothing to the patient; and then the ordinary anodyne fomentations, containing poppy, hemlock, or belladonna, according to circumstances, will be required. I have found an evaporating lotion, containing some anodyne tincture, very generally applicable in these cases; and I think I have observed that cooling lotions are more available in young persons, for the management of deep-seated inflammation than in adults. It may be, that heat is more quickly generated on the surface of their integuments, and that deep-seated congestion therefore obtains, if I may say so, a more speedy outlet by evaporation. With respect to position, discover, if possible, one in which he is comparatively at ease, and maintain it by proper support. He will often desire a change of posture, without being able to procure it for himself; but you may place the limb in any way most agreeable to him, and you should, from time to time, have it altered when he becomes fatigued.

The constitutional treatment best suited to the early stage, will, after moderate aperients, be a mild mercurial plan, conducted so as to affect the system in three or four days.

I need not now repeat the maxim I have so open impressed upon you, when speaking of this powerful agent—namely, that if, for sake of speed, you commence a mercurial course, on a plan capable of giving rise to gastro-intestinal irritation, and that this state unhappily occurs, you are foiled by your own zeal, and retarded by the very anxiety to obtain a hasty result. This interruption to the use of mercury is not the only evil, for you will find that a degree of debility and irritability of the system is induced, which is very unfavourable to the removal of the effects of inflammation. Commence your mercurial course, therefore, with this conviction, that the plan is most speedy which allows you to go on without interruption to the development of its constitutional effects, to a degree suited, in your judgment, to the exigencies of the case. The high doses of mercury which you have seen used in acute visceral inflammation are not applicable here. The quantity of opium necessary to guard the bowels cannot be given with safety to young subjects; and salivation, when it does occur, is generally accompanied by more swelling and inflammation of the tongue and cheeks than is safe at this early age.

The minute doses of calomel, as the twelfth of a grain, recommended by Dr. Law, to be given every hour, will often produce their effects with a few grains of the medicine, and I add, with pleasure, my testimony to his own as to the safety of this mode of exhibiting it. There is, however, a difficulty in managing the regularity of the doses at such short intervals; and, whether from this cause, or that the medicine in a state of such minute division is lost in the primæ viæ, I cannot say; but you will remember being sometimes disappointed, while waiting from day to day for some sign of mercurialization, at a time when the symptoms for which it was administered were in steady progress. On the whole, the mode I recommend in the present case is the conjunction of the external employment of mercury, with its internal exhibition in small doses of a mild preparation. Suppose, then, that you have depleted locally, as far as you think the patient will bear, you may direct ten grains of mercurial ointment to be rubbed over the abdomen every sixth hour, and if you desire an early effect, place a few grains of the remedy on each axilla. Extending the surface creates a mercurial atmosphere about the patient, independent of the stimulation of the absorbents where it is applied. I have tried mercurial friction over the groin and upper portion of the thigh; but, however cautiously performed, it was complained of as increasing pain.

Should you deem it expedient to resort to the internal exhibition of mercury at the same time, you should combine it with other medicines calculated to lessen the fever. With this view, two grains of the hydrargyrus cum cretâ, with two grains of James's powder and half a grain or a grain of Dover's powder, may be given every fourth hour. The hydrargyrus cum cretâ is a valuable preparation if successfully made; but, with the best management, its metallic basis is often perceptible if examined with a lens. I therefore frequently direct one grain of blue pill with three grains of prepared chalk to be rubbed together with the other medicines, and made into pills of a convenient size. Another mode I sometimes combine the mercury with chalk is, to have the pill containing the blue pill, James's powder, &c., washed down with half an ounce or an ounce of the mistura cretæ. Should the patient be unable to swallow a pill, you may order the blue pill to be made into a draught with a little mucilage and water, or with the chalk mixture. If the pilula hydrargyri be prepared as directed by the Edinburgh College, with starch instead of liquorice powder, it will be in every way more likely to agree.

Counter-irritation is often of great service, and is followed by a diminution of pain. When blisters have been applied, you should have a warm poultice laid over the blistered part, with a view to detach the cuticle; and afterwards dress the surface with a very much diluted mercurial ointment.

Under this treatment, if an early opportunity is afforded you, the first stage may be sometimes so effectually antagonized, that the pain may cease, the local tenderness and swelling be lessened, and the disease receive a check. You are not, however, to promise that this formidable complaint will yield with certainty to the mercurial plan, and hence another reason for conducting it with caution. You must, at least, secure your patient against ill consequences from your remedies, if you cannot ensure their success. When the complaint has been only partially arrested, other means remain to be used; but a few days' repose should be given to the constitution; the mercurial irritation should be allowed to subside; and light

nourishment allowed. During this period your local treatment may be persevered in, and varied according to circumstances. You may then direct the hydriodate of potass—a remedy from which you have witnessed such signal benefit in various diseases of the bones and their coverings. You are aware that I do not employ this medicine now in high doses, unless more moderate ones have entirely failed. Two or three grains thrice a day will often produce as much benefit as the medicine is capable of affording; and the risk of occasioning those obscure constitutional disturbances which sometimes follow its use is avoided. I am indebted for this fact to Sir Benjamin Brodie, who, in one of those conversations which I shall always remember with pleasure, mentioned his experience on this point. We occasionally, however, meet with instances in which full doses of the hydriodate of potass succeed when milder ones have failed.

Should you not have an opportunity of treating this disease before the second week, it rarely happens that its progress can be stayed; the management in that case will be nearly such as would be required in acute necrosis. When abscesses are formed, the matter must be evacuated, poultices and soothing applications employed, nourishment allowed, and change of air if possible procured.

We shall next consider the chronic form of the complaint, and the diseases to which it bears a resemblance.

ON THE

ACTION OF VARIOUS SALINE SUBSTANCES

ON THE ANIMAL ECONOMY,

When injected into the Circulating System.

By James Blake, Esq.

[*For the London Medical Gazette.*]

A memoir on this subject was lately presented to the Institute of France, by Mr. James Blake. The following *resumé* of the experiments contained in this paper was read by the author when he presented it:—

The memoir which I have the honour to submit to the Institute contains the result of a series of researches that have been performed, in order to observe the effects produced on the functions of certain tissues, by the changes that take place in the blood when brought into contact with various inorganic compounds. Experiments have been performed with the salts of soda, potass, ammonia, baryta, lime, and magnesia — solutions of these salts being injected into the veins or arteries—and the phenomena they have given rise to have in most instances been observed by aid of the hemadynamometer—an instrument of the greatest value in all researches connected with the circulation. Owing to a well-marked difference in the physiological action of these substances, they have been divided into two classes: all those contained in one class destroying the irritability of the heart the instant that blood containing them in any quantity is circulated over its parietes; whilst the substances contained in the other class, without in the least degree affecting the irritability of the heart, prove fatal by arresting the passage of the blood through the lungs, apparently by an influence they exert on the pulmonary capillaries. This division, founded on the physiological action of these substances, has also the advantage of separating them into two groups, the chemical composition of which is equally well marked; the only salts the presence of which in the blood does not appear to affect the irritability of the heart being those of soda, the salts of all the other bases, as far at least as they have been tried, suddenly arresting the action of that organ, when introduced into the blood in any quantity.

But although the presence of the salts of soda in the blood does not render this fluid unfit to maintain the irritability of the heart, yet the phenomena they give rise to when injected into the veins are such as to place them amongst the most rapidly fatal poisons. If a solution of one of these substances is injected into the jugular vein of a dog, the supply of blood to the left side of the heart is cut off in about six seconds, although its contraction still continue; at the same time the blood accumulates in the right side of the heart and venous system, to such an extent as to cause a degree of pressure to be exerted on the parietes of these veins, which has been found to be equal to a column of mercury of two inches. This pressure being felt equally on the surface of the ventricles of the brain as in other parts of the venous system, must produce a degree of compression on the brain sufficient to fully account for the sudden death of the animal, which generally takes place in from thirty to forty seconds after the introduction of the salt into the veins. After death, the heart still retains its irritability; and so perfect is the obstruction afforded by the pulmonary capillaries to the passage of these substances, that in some instances not a trace of them could be discovered in the left cavities of the

heart. Should the quantity introduced into the veins not be sufficient to totally arrest the passage of the blood through the lungs, the action of these substances on the pulmonary capillaries is shewn by the increased secretion that takes place in in the air-passages, and which is such as to quickly fill the bronchial tubes, thus causing the death of the animal by asphyxia. The presence of these substances in any quantity in the blood, also affords a powerful obstacle to the passage of this fluid through the systemic capillaries; a pressure equal to a column of mercury of fourteen inches being often attained in the arterial system a few seconds after their introduction into the arteries, and which is evidently owing to the passage of the blood through the systemic capillaries being arrested.

The phenomena that follow the injection of a solution of any of the substances into the veins, contained in the other class, are widely different from those above described. The most striking method of observing their action is by injecting them into the veins of an animal, the thorax of which has been opened, artificial respiration being had recourse to. In these circumstances, the action of the heart is *seen* to be suddenly arrested in from 7 to 10 seeonds after the introduction of the injection. So completely is the irritability of this organ destroyed, that no contractions of it can be produced a few seconds after death, even by the application of the galvanic stimulus, if the dose of the poison has been at all large. General death does not follow so rapidly in these instances as when the passage of the blood through the lungs is arrested, the respiration and sensibility continuing sometimes after the pulsations of the heart have ceased. The injection of solutions of these salts into the arterial system is followed by phenomena analogous to those that are produced by the introduction of the salts of soda, the blood containing them requiring a force equal to a column of mercury of fourteen inches before it can pass through the systemic capillaries.

This fact, viewed in connection with the facility with which these substances traverse the capillaries in the lungs, is interesting, as proving that certain changes may take place in the blood which may affect the capillaries of one organ without apparently producing any influence on those of other organs. The injection of these substances into the arteries also affords a satisfactory proof that their action on the heart is entirely due to the blood containing them being circulated over its parietes, for when injected into the veins the pulsations of the heart are arrested in from seven to ten seconds; whilst from twenty-five to thirty-five seconds elapse, when these substances are introduced into the arteries, &c. before that organ is affected, although in this case the poison is directly circulated through the brain. Any attempt to connect these phenomena with the changes that these substances produce in the composition of the circulating fluid, is, in the present state of organic chemistry, but a hopeless task. That they depend on certain definite changes produced in the composition of the blood cannot for a moment be doubted, when we consider the intimate connection that exists between the chemical composition of these substances and their physiological action. A series of experiments, undertaken with a view of elucidating this point, led to results which, if possible, tend to render it more obscure; for I find, that on mixing these salts with the blood, when drawn from the body, the changes which this fluid undergoes, as far at least as a superficial analysis will enable us to detect them, are intimately dependent on the acid contained in the salt; whilst the changes produced by these substances in the blood, and on which their physiological actions depend, are as strikingly owing to the base of the salt, and are but slightly modified by the combination of this base with even the most powerful acids.

MM. Magendie, Breschet, and Flourens, were appointed commissioners, in order to examine the memoir.

LITERARY NOTICE.

Particulars of the Illness and Death of the late Mr. Mori, the Violinist. By E. W. Duffin, Surgeon.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *June* 25, 1839.

Abscess	2	Inflammation	11
Age and Debility	31	Bowels & Stomach	3
Apoplexy	3	Brain	4
Asthma	4	Lungs and Pleura	6
Childbirth	3	Insanity	3
Consumption	33	Liver, diseased	1
Convulsions	25	Measles	19
Croup	3	Mortification	4
Dentition	1	Paralysis	3
Dropsy	3	Rheumatism	1
Dropsy in the Brain	6	Small-pox	2
Dropsy in the Chest	1	Sore Throat and Quinsey	1
Fever	5	Stricture	1
Fever, Scarlet	3	Unknown Causes	93
Fever, Typhus	2		
Heart, diseased	1	Casualties	11
Hooping Cough	4		

Increase of Burials, as compared with the preceding week . . . 87

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, June 25th, 1839.)

	Price.		Duty.	Duty Paid.	
				In 1839 to last week	Same time last year.
	£ s. d.	£ s. d.	s. d.		
Aloes, Barbadoes, D.P. c	12 0 0 to	40 0 0	B P. lb 0 2	56,504	57,237
Hepatic (dry) BD..... c	5 0 0	14 0 0	F. lb 0 8		
Cape, BD. c	2 15 0	——			
Anise, Oil of, German, D.P.... lb	0 9 6	0 9 6	F. lb 1 4	——	133
E. I. ..... lb	0 5 9	——	E. I. 1 4	912	459
Asafœtida, B.D. c	2 10 0	5 0 0	c 6 0	20	35
Balsam, Canada, D.P. ..... lb	0 1 3	0 1 4	lb 0 1	8,331	4,506
Copaiba, BD. ..... lb	0 5 6	——	c 4 0	244	155
Peru, BD. ..... lb	0 4 3	——	lb 1 0	508	1,468
Benzoin (best) BD..... c	25 0 0	50 0 0	c 4 0	57	47
Camphor, unrefined, BD..... c	10 0 0	——	c 1 0	219	283
Cantharides, D.P. ..... lb	0 5 0	0 5 3	lb 1 0	8,468	8,672
Caraway, Oil of, D.P. ..... lb	0 8 0	0 8 6	lb 4 0	327	521
Cascarilla or Eleutheria Bark, D.F.C.	3 10 0	——	lb 0 1	48	4,031
Cassia, Oil of, BD..... lb	0 7 6	——	lb 1 4	1,474	2,025
Castor Oil, East India, BD ..... lb	0 0 6	0 0 11	c 1 3	3,166	2,814
West I. (bottle) D.P. 1½ lb	——	——	——		
Castoreum, American ..... lb	0 17 0	0 18 0	lb 0 6	467	553
D.P. Hudson's Bay ..... lb	0 18 0	1 0 0			
Russian..... lb	none				
Catechu, BD. Pale c	1 6 0	——	c 1 0	20,357	13,006
Dark	1 15 0	——			
Cinchona Bark, Pale (Crown).... lb	0 2 0	0 3 6	lb 0 1	30,075	84,630
BD. Red ..... lb	0 2 0	0 4 0			
Yellow ..... lb	0 3 6	0 3 8			
Colocynth, Turkey ..... lb	0 2 6	0 4 0	lb 0 2	4,336	5,393
D.P. Mogadore ..... lb	0 1 0	——	lb 0 2	7,262	17,389
Calumba Root, BD. c	0 12 0	1 15 0	lb 0 6	26,498	13,428
Cubebs, BD. c	2 14 0	——	c 4 0	36	58
Gamboge, BD. c	5 0 0	15 0 0	c 4 0	332	266
Gentian, D.P. c	1 6 0	1 8 0	c 6 2	2	13
Guaiacum, D.P. ..... lb	0 1 0	0 1 8			
Gum Arabic, Turkey, fine, D.P... c	11 0 0	12 0 0			
Do. seconds, D.P. .. c	8 0 0	——	c 6 0	4,297	2,910
Barbary, brown, BD. c	2 2 0	——			
Do. white, D.P..... c	4 10 0	——			
E. I. fine yellow, BD. c	2 14 0	3 0 0	c 6 0	3,584	2,473
Do. dark brown, B.D. c	1 15 0	2 5 0	c 6 0	11,122	7,533
—— Senegal garblings, D.P. c	3 6 0	——	c 6 0	62	254
—— Tragacanth, D.P. c	8 0 0	12 0 0	lb 0 1	5,621	5,179
Iceland Moss (Lichen), D.P. .... lb	0 0 2½	0 0 3	lb 1 0	3,692	9,333
Ipecacuanha Root, B.D. ..... lb	0 1 9	0 2 0	lb 0 6	18,904	21,073
Jalap, BD. ..... lb	0 2 8	0 2 9			
Manna, flaky, BD. ..... lb	0 3 6	0 4 3	lb 0 3	6,156	4,356
Sicilian, BD. ..... lb	0 1 7	——			
Musk, China, BD. ..... oz	1 0 0	1 8 0	oz 6 0	1029	955
Myrrh, East India, BD. c	5 0 0	14 0 0	c 6 0	129	77
Turkey, BD..... c	2 0 0	11 10 0			
Nux Vomica, BD..... lb	0 8 0	0 9 0	lb 2 6	225	556
Opium, Turkey, BD. ..... lb	0 15 0	——	lb 1 0	16,612	13,829
Peppermint, Oil of, F. BD..... lb	0 18 0	——	lb 4 0	1,123	437
Quicksilver, BD. ..... lb	0 3 10	——	lb 0 1	132,581	158,661
Rhubarb, East India, BD..... lb	0 2 6	0 4 0	lb 1 0	17,264	15,734
Dutch, trimmed, D.P. lb	0 3 6	0 5 0	F. lb 1 0	1,599	2,997
Russian, BD. ..... lb	0 8 3	——			
Saffron, French, BD. ..... lb	0 18 0	——	lb 1 0	1,856	2,639
Spanish ..... lb	0 18 0	0 18 6	lb 0 6	62,268	56,745
Sarsaparilla, Honduras, BD..... lb	0 1 0	0 1 9			
Lisbon, BD. ..... lb	0 2 0	——			
Scammony, Smyrna, D.P..... lb	——	——	lb 2 6	4,918	4,089
Aleppo ..... lb	0 18 0	1 0 0	E.I. lb 0 6	69,501	32,568
Senna, East India, BD..... lb	0 0 3	0 0 4			
Alexandria, D.P..... lb	0 1 9	0 1 10	Other sorts 0 6	42,229	34,682
Smyrna, D.P. ..... lb	0 1 0	0 1 3			
Tripoli, D.P. ..... lb	0 1 0	0 1 3			

‡§‡ BD. In Bond.—C. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

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THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JULY 6, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

At the age of forty, as we have just observed, another change takes place in the constitution, and the lithic acid begins to be secreted in greater abundance. This, too, is the age at which persons inheriting a disposition to gout, begin to suffer from the lurking seeds of that disease. At this period, Dr. Prout says, "the lithic acid may not inaptly be considered as a sort of *materies morbi*—that is to say, the cause of irritation in the constitution, whatever it may be, seems to be tranferred to the kidneys, which are thus induced to secrete an extraordinary quantity of lithic acid, and by this means to give great relief to the system at large. Upon this principle it is," he continues, "that the good effects ascribed to certain remedies of the active diuretic kind, may be probably explained; such remedies appearing to possess the power, when given in certain favourable conditions of the system, of exciting the kidneys to secrete large quantities of lithic acid, and in this way, by bringing about a sort of artificial crisis, to produce great temporary relief *."

In confirmation of these views, I may bring to your recollection the irritable state of system in certain febrile states, and also that arising from certain organic diseases, that a remission is attended with a discharge of a large proportion of lithic acid, or some modification of it—the purpuric, for instance; and if we can succeed in effecting, artificially, the same deposit, we seldom or never fail of affording relief. In the specimens which you see here, and which have been passed by children in whom the urgent symptoms of scarlatina, measles, &c. have remitted, there is a considerable deposit of the lithate and purpurate of ammonia. Henry also mentions cases in which a remedy, composed chiefly of tincture of opium and turpentine, brought away several ounces of lithic acid in the course of a day or two. He supposed the lithic acid, in this case, to have been lodged in the kidneys, and that the increase of urine merely washed this away, as it were, mechanically; but Dr. Prout thinks, that although this might have been the case in part, yet he says he cannot help thinking that by far the greater part of it was actually secreted under the influence of the medicine: and that this is generally the case, I think, cannot admit of doubt; for it is not in general pure or insoluble lithic acid, but, for the most part, some of the soluble compounds of the lithic acid—lithate of ammonia, for instance — which, under such circumstances, appears in such large quantity. In some, however, it consists of the lithate of ammonia with a mixture of lithic acid; these may be separated either by raising the temperature or adding a little hydrochlorate of ammonia, which render the lithate of ammonia more soluble, while, at the same time, the more insoluble lithic acid will remain, and may be recognized by its specific characters. I here show three specimens of urine passed by a person who inherits a disposition to gout, and who, if I understand his history, has already suffered some warning attacks of the disease. You see that lithate of am-

* On the Urinary Organs, pp. 147, 148.

monia in abundance has separated from some; but from one, even although hydrochloric acid has been added, scarcely any appreciable portion of lithic acid has separated. Now the question is, whether in this case the health, which is generally worse under these circumstances, is caused by the lithic acid not being separated. We offered some observations upon this subject before, and therefore we must refer to that part. I here present you with the matter passed, or rather thrown off occasionally, from the joints of a gouty patient under my care at the Dispensary. When lithic acid disappears in the urine, this salt (the lithate of soda) generally makes its apperance in the joints; and if there were not this outlet, in all probability something worse—as apoplexy, inflammation of the brain, or something similar, would happen. It has been observed, that persons suffering from this state of system frequently die suddenly; therefore the management in this is both important and delicate.

With respect to the means of relief, opium, not only from its sedative effects, but from its property of increasing, as it is said, the secretion of lithic acid, is a very valuable remedy. It calms and tranquillizes the system; and whether it be that this tranquillity favours the evacuation of the lithic acid, or that the quantity of this principle is actually increased under its use, certain it is that the lithic acid appears more abundantly in the urine. With respect to the preparation, some prefer the opium itself, and others the tincture. I myself have been long in the habit of giving the salts of morphia—as the sulphate or muriate—of either of which from half a grain to a grain may be given every night, or every other night, according to the necessities of the case and the urgency of the symptoms*.

At the same time the diuretics should be continued, for the purpose of increasing the quantity of urine, and bringing away the lithic acid. The diuretics may vary according to circumstances. Turpentine, as already mentioned, of which from ten to twenty or thirty minims may be given twice or thrice a day, which the dose as a diuretic should not exceed*, as it will then act as a purgative. In some cases the hydrochloric acid may be substituted for the turpentine; and they may be conjoined with the opiate, or the opiate taken at night, and the diuretics in the day. However, it should always be borne in mind, that the acids are dangerous remedies in the lithic acid diathesis; and if this acid shews any tendency to concrete, the hydrochloric acid should be immediately discontinued, and an alkali—potass, for instance—substituted in its place.

As vehicles we use some of the old remedies used by the ancients, and still popular as diuretics, as the decoctions or infusions of the wild carrot, of the Alchemilla arvensis (the parsley breakstone), or pyrola (winter-green). There are also many other diuretics mentioned by the ancients, some of which are articles of food; such are parsley, mint, nasturtium, capers, asparagus, parsnips, carrot, horse-radish, onion, &c. An infusion of some of the more active of these may be given during the day; and if they have no other advantage, patients will often take these infusions as medicated, when they would not take fluids merely as diluents; and yet the dilution of the urine greatly favours the expulsion of the lithic acid from the system.

In many cases of this kind I have found colchicum a very valuable and powerful auxiliary; and, indeed, I should add a portion of it to the diuretic draught, or perhaps what is preferable, the extract of colchicum may be used to form the pill-mass for the exhibition of the morphia. But it must not be forgotten that, in many of these cases, there is a tendency to congestions and other affections of the head, which opium increases; but I believe morphia is much less disposed to such effects, and, consequently, so far less liable to objection.

While this plan is pursuing we must narrowly watch the state of the system, and whenever there appears to be any excitement, or tendency to inflammation, no

* Some form the salts of morphia into pills by means of soap, which is not only unscientific, but prejudicial to the influence of the remedy. The alkali of the soap deprives the morphia of its acid, and so far renders it much less soluble. If a poisonous dose of a salt of morphia were swallowed, I should not hesitate, if in want of any other antidote, to administer a solution of soap; by which the morphia would be separated, precipitated, and rendered insoluble, till, perhaps, it could be evacuated from the stomach. It is, too, upon this principle that the acetate is less suited for internal use; it parts with a portion of its acid, and thus becomes less soluble, and consequently less efficacious. Hence, too, the utility of adding a small quantity of acetic acid to keep the acetate in permanent solution. Therefore it is better, if the form of pills be desirable, to form the sulphate or hydrochlorate of morphia into pills by means of extract of liquorice, mucilage, or some such matter, which will exert no peculiar chemical action upon the salt.

* There are many who make the diuretic effects of English gin an excuse for an extensive and pernicious indulgence in its use. That it has a diuretic effect there can be no doubt, and that this effect arises from the turpentine and stimulating and essential oils with which it is manufactured, there is no doubt. But as turpentine is diuretic only in small doses, in larger passing off by the bowels, it is evident that excess in the use of gin will disappoint the expectations, and will also prove otherwise injurious.

matter what the locality, it must be combated by venesection, and the interposition of mercurials and antimonials; and this is especially necessary when there is a strong tendency to active inflammation of the kidney, or when a renal calculus, too large to pass along the ureter, is suspected. In such cases the exhibition of the diuretics, &c. as calculated to do much mischief, must be suspended, and recourse had to the means just mentioned; nor, in the opinion of Dr. Prout, does the employment of the foregoing plan appear to suit any other form than that of the crystallized lithic acid; and he considers it objectionable, even in such forms, if in very young or in very old subjects. "Hence," he observes, "as this class of remedies does not appear to exert any beneficial action in any case, in removing the tendency to gravel, but are calculated to answer a particular and temporary purpose only, the moment this has been effected they should be no longer employed; but the means above recommended, as adapted to prevent a tendency to the affection, be recurred to*."

Indeed, this is the most dangerous as well as the most difficult form to manage which the lithic acid assumes, because we have two ulterior consequences to combat; first, if the secretion of lithic acid be suddenly checked or interrupted, the severest constitutional symptoms follow. Nor does it matter whether this check have been effected by appropriate remedies or not, the effects will be the same—coma, apoplexy, or fatal congestion of blood, or hæmorrhagy from the lungs. On the other hand, we have to fear the formation of stone in the bladder, to which there is generally found a great tendency under such circumstances. Indeed, this is one of those very intricate conditions for the management of which no special rules can be laid down; but if you observe cases of this sort narrowly, and watch their progress, you will find that the facts have been by no means misrepresented; and I have in a few instances seen persons die under such circumstances, and whose deaths were referred to causes very distant from the real ones.

The symptoms of calculus in the kidney have been already detailed, and the passage of this, or at least the elements of it in large quantities, has been termed a fit of the gravel. A fit of the gravel consists in the secretion of an unusually large portion of lithic acid by the kidney, and this is preceded by fever, inflammatory action, and the constitutional derangement already mentioned. Here our treatment must be more active; bleeding, cupping the loins, or leeching, will be necessary, especially if the symptoms are at all acute. Calomel and antimonial powder, to which, if there be but little nausea, the small portion of potassio-tartrate of antimony, already mentioned, may be added. At the same time, but more especially if there be much nausea or vomiting, we should administer opium, hyoscyamus, &c., and this plan should always be persevered in till we obtain some relief, nor should the diuretics be previously administered.

Immediately after the bleeding, or before any purgatives can have produced their effects, the patient may be put into a warm bath; or, if this is not practicable, warm fomentations should be applied to the loins. He may then have recourse to the purgatives before mentioned, namely, tartrate of potass or the Rochelle salts; and it is here, too, that the addition of colchicum will be found so very beneficial. After venesection and the warm bath, colchicum and opium exert a wonderful control over the inflammatory or spasmodic actions of the kidney and urinary organs in general, and therefore seldom fail to induce a flow of urine. The greatest caution is necessary at this period, and stimulating diuretics should be most carefully avoided, as the very worst consequences have resulted from their use. Not very long since I was called to a Dispensary patient, who, I was informed, had been suffering from lumbago, for which he could obtain no relief, and was advised by some body to take purl, or some such sour stuff, in the quantity of half a pint, three times a day. He had a mixture which consisted principally of gin and hydrochloric acid, with some spirits of turpentine, of which he took a wine-glass full night and morning. He continued this for a week, when he was attacked with most dreadful pain in the loins, extreme irritation of the urinary organs, and a constant desire without the ability to pass a single drop of urine. When the efforts were very strong and forcible, a few drops of blood came. He had as great a desire to evacuate the bowels, but no stool passed. He had vomited in the beginning, but now was affected with severe nausea. He had had one or two severe attacks of rheumatism, as he described it, but which appeared to me to be gout. Under these circumstances he became a Dispensary patient, and I was called to him. By bleeding, the use of the warm bath, morphia and colchicum in large and frequent doses, and the use of tartrate of potass, a flow of urine succeeded. The quantity was increased by the use of diluents; and sinapisms, with a view of exciting gout, were applied to the joints of the great toes. On the fifth day after I saw him, he passed at one micturition very nearly two quarts of urine, in which the three small

* Prout on the Urinary Organs, pp. 149-150.

lithic calculi, which I here show you, were passed. This patient, in the course of a fortnight, recovered from his urgent symptoms, and gradually gave up coming to the Dispensary, and I lost sight of him. The case, however, is instructive, as shewing what injury may be done by an ignorant interference in conditions of this sort.

If the attack, therefore, be attended to in time, and properly treated, we shall be almost certain of preventing the formation of a calculus in the kidney, or if formed and small, it will be brought away without those distressing symptoms which, under opposite circumstances, attend the descent of a calculus through the ureter, or its impaction in this canal. When the urgent symptoms have been relieved, the strictest regimen must be adopted, and a seton in the loins often proves beneficial. If the patient will not submit to this, sinapisms to the loins should be occasionally applied, and in the intervals a large pitch or galbanum plaster should be worn.

Oxalate of lime, or mulberry diathesis. — Oxalate of lime is found forming the nucleus of calculi, and also giving a coating to lithic nuclei; but to determine that the urine is in a state or condition to deposit oxalate of lime is not quite so easy. This is owing to the circumstance that oxalate of lime never appears alone in the urine, in the amorphous form. It sometimes appears mixed with the lithic amorphous sediments, but even this is very rare; and when it does so occur, it forms comparatively but a very small proportion of the sediment. Oxalate of lime is still more rare in the crystallized form of sediment. Dr. Prout states, that he saw but one instance, but as he merely received the gravel for examination, he declares himself unacquainted with the particulars *. Mr. Brande mentions the particulars of a case in which an oxalate of lime calculus was afterwards extracted. "The patient was 62 years of age, and about five years previously had suffered a slight attack of the symptoms of a stone passing from the kidney to the bladder. He had voided no sand, and his urine always appeared clear. During the last two years, the symptoms of stone in the bladder attained such violence as to render the operation necessary, and a very perfectly formed mulberry calculus, about the size of a nutmeg, with a distinct oxalate of lime nucleus, was removed †."

But renal calculi, consisting of oxalate of lime, are by no means very uncommon. Dr. Prout, in his work upon Urinary Diseases, gives the particulars of twelve cases, for the detail of which I must refer you to the work itself. The history of these cases, Dr. Prout thinks, warrants the following conclusions:—

1st. That the disease occurs in both sexes, may exist before puberty, and at all ages between that and 40 or 50, when it is most frequent; but that it does not occur after 60, and hence probably is not a disease of old age.

2d. It is not incompatible with gout, but, on the contrary, is often associated with it; and both it and the lithic acid are frequently connected with a tendency to cutaneous disease.

3d. It occurs in sound constitutions, and in persons ordinarily enjoying good health; rarely occurs a second time, unless at long intervals, during which the intermediate health is good *.

4th. The urine is acid, and apparently but slightly deranged in this form of calculus, and very free from all sort of sediment or gravel.

5th. That as renal calculi of the oxalate of lime often subsequently attain considerable size in the bladder, it may be inferred that the formation of this compound is connected with a distinct diathesis, excluding the presence of other diatheses, and that it is not an accidental occurrence, happening, in common with many others, to the urine.

6th. From the dissection of calculi, it appears that the oxalate of lime diathesis is preceded and followed by the lithic acid diathesis—a circumstance which seems to be peculiar to these two forms of deposit, and which, when taken in conjunction with the other circumstances, appears to shew that they are of the same general nature; or in other words, that the oxalic acid merely takes place, as it were, of the lithic, and by combining with the lime naturally existing in the urine, forms the cretion in question.

7th. That the diathesis being of a similar nature, the principles of treatment adapted for counteracting the original tendency to it must be also similar—that is to say, of an antiphlogistic character; great attention being at the same time paid to the digestive functions †.

Such were the inferences first formed by Dr. Prout, and subsequent experience fully confirmed these views. As far as my own limited experience goes, it coincides very much with the above; but there are

* On the Urinary Organs, p. 153.

† Journal of the Royal Institution, vol. viii. p. 213.

* Dr. Marcet makes the same remarks:—"It appears," says he, "that persons who have voided this species of concretion are much less liable to a return of the complaint than those subject to the lithic acid calculus."—(Marcet on Calculi, 2d edit. p. 85.) Similar observations are made by Mr. W. Brande (Phil. Trans. 1808, p. 238).

† On Diabetes, Calculus, &c. pp. 158, 159.

many obstacles in the way of acquiring knowledge upon this subject. First, the subjects, generally speaking, enjoy good health, or at least are not conscious of any disease, and therefore opportunities for observation occur only at particular periods

In the second place, a great proportion of the persons so afflicted at these periods resort to the hospitals, where the operation is performed, and the medical and chemical particulars of the case either are wholly neglected, or, if recorded, such record is mostly confined to the private journals of the establishment, and consequently are not available for general purposes.

Diagnosis.—This, perhaps, is the most important, and perhaps at the same time the most difficult, part of the inquiry. Dr. Prout laments this circumstance:—"With respect," he says, "to the means of determining when this diathesis is going on in the system, I am sorry that I can give but little positive information. The absence of urinary sediment, &c. is of a negative character, and leads to no inference where other circumstances are wanting, as is most generally the case. But if there be pain," he continues, "in the region of the kidney, and other symptoms of gravel, without any appearance of sediment, and if the urine be acid, and of the yellow tint* above alluded to, the stomach deranged, and an inflammatory diathesis, either general or local (*i. e.* about the urinary organs), be present; and if all these are associated with suppressed gout, or tendency to cutaneous disease, the existence of this form of the disease may be suspected, and means immediately taken to counteract it†."

If sediments existed in the urine, we may presume that they would consist principally of oxalate of lime, and possibly oxalate of magnesia. If either of these be boiled with a solution of carbonate of potass‡ for a considerable time, by the long boiling an interchange of principles is effected, and carbonate of lime, which is insoluble, and a soluble oxalate of potass, result. In this flask I present you with the results of a portion of this mulberry calculus thus treated. If we pour off the fluid, on testing it with chloride of calcium, sulphate of copper, and nitrate of silver, the characteristic precipitates—as you see—are obtained. But unfortunately there are no sediments to assist us. Then the question is, is there any certain means of diagnosis? So far as I know, the qualities of the urine are equivocal. Dr. Prout thus describes his ninth case:—"It occurred in a captain of the navy, about 60 years of age, of a gouty family, though he had never had gout himself, and in general enjoyed good health, was active and temperate. Within the last fourteen years he had passed four calculi from the bladder; the two first of these were lithic acid; the last, composed of a congeries of pale-coloured crystals of oxalate of lime, was passed about three years before I saw him, which was in March 1822. At that time he had every symptom of a small calculus in the bladder; the urine was of a pale citrine colour, and of specific gravity 1019·8, acid, but yielded a copious precipitate of the mixed phosphates on the addition of ammonia, and of oxalate of lime on the addition of oxalate of ammonia. This gentleman had never seen gravel in his urine*."

Here there is nothing very characteristic; the principal points are, the urine was acid, of a peculiar colour, not usual in the lithic acid diathesis, and abounded in the earthy salts†. But let us suppose that the pain in the loins, and the other presumptive symptoms already noticed, exist, and these associated with the condition of urine just now mentioned, we should not only be justified in suspecting the oxalic diathesis, but bound to investigate chemically the urine, for the purpose of discovering and identifying oxalic acid.

If the urine contain oxalic acid at all, evidently it must be in the free state, or combined with a base. We can scarcely admit it to be in the free state, because as the urine appears to abound in earthy

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* Dr. Prout states, that he has observed the urine in this diathesis to present a peculiar *yellow* tint, different from that usually present when the lithic acid prevails, which is usually more inclining to red. He professes himself, however, incapable of deciding whether this appearance be characteristic or not. He also avows the difficulty of conveying a clear and perfect notion or conception of this quality by verbal description. For my own part I should have depicted it as a citron tint, or a yellowish green, in which, however, the yellow greatly predominated. So much for our capabilities of defining the more simple or abstract notions.

† On Diabetes, &c. pp. 160, 161.

‡ Caustic potass would answer the purpose as well, if not better; but Gay-Lussac has announced the singular fact, that oxalic acid is produced by the action of potass at the boiling temperature upon animal matter. Consequently, if we used caustic potass, oxalic acid might be produced by the action of the alkali upon the organic or animal matter, always intermixed with calculous matter. Carbonate of potass, however, is wholly free from any such source of error, and consequently from all objection.

* On Diabetes, &c., p. 156.

† Dr. Prout does not notice the circumstance, that oxalate of lime might have precipitated with the fusible phosphates; and an inconsiderate investigator might thus lose the evidence of which he was in search; for the intermixture of oxalate of lime would not hinder the fusion, while it is evident that the oxalic acid would be destroyed during the heating, and thus no evidence of its existence would be left.

salts, of course it would precipitate as an insoluble oxalate, as you will observe to happen on adding a solution of oxalic acid to urine containing any of the earthy phosphates; and as I myself have ascertained occasionally, on adding oxalic acid to the urine of persons suffering from the oxalic diathesis. Neither can we suppose it to exist in combination with the alkalies, for oxalate of potass and superphosphate of lime are incompatible salts, and therefore could not coexist in the same solvent. Therefore we must conclude, if it exist at all, that it must exist in combination with lime, and that the oxalate of lime is held in solution by some mineral acid, as the hydrochloric, but more probably the nitric; for oxalate of lime, as we have already seen, is readily dissolved by nitric acid. If such be the case, the difficulty will be to separate the earthy oxalate from the phosphates; but I believe it may be in some degree effected as follows:—We neutralize the dissolving acid by potass or its carbonate; a mixture of oxalate and phosphate of lime precipitates, as you may observe by treating this artificial solution of these salts in nitric acid, as above; you see a precipitate subsides. We next pour off the supernatant fluid, and wash the precipitate with distilled water. If I now add a little acetic acid, it dissolves the phosphate, but—as you see—leaves the oxalate of lime untouched; and this may be recognized by the characters already enumerated. I have had but one or two opportunities of putting this method to the test of experiment in urinary cases. In those in which I tried it, I have not found it satisfactory, perhaps from the non-existence of oxalic acid, except upon one occasion, and that was a case of rickets, or mollities ossium, of an inveterate description, and a general scrofulous diathesis. I saw it asserted that the lime of the bones passed off in the urine as a superoxalate of lime. Although this appeared highly improbable, yet the urine in such cases often appears turbid, almost like whey, and seems to have a whitish powder floating or suspended in it. This, I have ascertained, consists of carbonate of lime, sometimes suspended, sometimes dissolved by excess of carbonic acid, and in this last case the urine becomes turbid or wheyish on being heated. This is owing to the expulsion of the excess of carbonic acid, the insolubility of the resulting carbonate of lime. In the case of mollities, however, oxalate of lime was distinctly traced, by the method above mentioned; and it seemed to have been held in solution by some strong acid.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 494.]

V.—INJURIES OF THE HEAD.—ON THE INFLUENCES REGULATING, AND THE INDICATIONS AFFORDED BY, THE IRIS, THE PULSE, AND RESPIRATION.

Cases of concussion.—Mode of distinguishing concussion in certain cases from compression.—Different views of many surgical writers of repute from those here given.—Intermittent pulse is not an indication of compression, neither of concussion; case.—Case of lesion, with cerebral inflammation, fixed and dilated pupil.—Compression producing coma and no dilatation of pupil; case.—Causes of compression classed.

As regards the breathing and pupil, perhaps this case of concussion in the next stage of severity, added to the one given as a type at the conclusion of last lecture, will leave nothing to explain further on the usual course and symptoms.

James Clark, æt. 17, short, thin, of previous good health, lymphatic temperament, on the same day was struck by a musket-shot on the top of the head, glancing through the scalp, and abrading the pericranium.

Admitted, 1st day, comatose; pulse and respiration labouring.

V.S. ad ʒxvj. Pulv. Jal. gr. xxv.

2d day.—More conscious; may be roused to answer a question, but when not spoken to returns to a semi-comatose state. Pulse and respiration more free and equal, although the former is becoming full, quick, and hard.

V.S. ad ʒxx. Rep. Pulv.

3d day.—Is still in a half comatose state; has difficulty in answering a simple question; pupils widely dilated, and contract imperfectly on exposure to the light; bowels obstinately constipated.

Emp. nuchæ ampl. nuchâ. V.S. ad ʒxvj. Ol. Tiglii, gtt. ij. st. s.

4th day.—Rather more sensible than yesterday, but the head symptoms seem more defined; cannot answer coherently, moans piteously, and talks of his headache.

C. C. ad nuchâ. V.S. ad ʒxvj.

Pulse full, sharp, and quick.

5th day.—Answers rationally; pulse softer, less sharp in its beat, but still of excited character.

V.S. ad ʒxij. C. C. nuchâ.

6th day.—Bowels open; aspect much improved, but still complains of headache.

7th day.—Much relieved; free from pain.

29th day.—Convalescent, but complains that he always has dizziness of head when he walks. No permanent pain; bowels act freely.

Cal. gr. iij. Pulv. Ipecac. gr. ij. st. s.

In this case the shock was more severe, coma more complete, no vomiting, and the pulse and respiration corresponding.

With returning consciousness rising pulse, announcing reaction, and the inflammatory or irritative stage; suppressed secretions from liver and bowels; dilated pupils, with slight contractile power. The retina still impaired; generally it recovers itself with the other cerebral functions.

The greater obstinacy and violence of the reactive or inflammatory stage, is also generally in strict relation to the greater violence of the original shock.

The continued irritability of fibre after recovery; the powerfully beneficial effect of depletions, proportioned to the violent and unyielding character of the inflammatory stage (demonstrated by the pulse and diminished pain), and of the re-established evacuations and action of the liver, are also well exemplified.

In some cases we neither find the pulse thus change its character, nor, indeed, the irritative stage supervene perceptibly. The lethargy lasts longer, and seems to fling its palsying power over the whole system, preventing or concealing this reaction; or the same lethargic state and pulse come on a second time. The following is an example of this last form, and may be taken as an indication of continued pressure:—

John Burn, æt. 23. On the 15th of March, 1837, was struck by a musket-ball over the anterior and superior part of the left os parietale, fracturing the bone. There was also depression, partially relieved by an elevator. The patient was admitted in a semi-comatose state; pupils dilated, and in a trifling degree only answerable to the light; pulse weak and faltering.

Cold lotion. Pulv. Purg.

2d day.—Patient describes himself as having passed a good night, but answers with hesitation. Pulse has changed, become full and strong.

V.S. ad ʒxvj. Rep. Pulv.

3d.—Better; answers well; complains only of pain in head.

4th.—Giddy and light-headed occasionally, if he lies on the side opposite the wound; no pain in head; pulse quiet.

5th.—Neither pain, giddiness, nor lightness; pulse 60—64, sluggish, languid, small in volume. Next two days doing well in all other respects; pulse the same.

9th.—Pulse 48, rather thready; pupils more dilated than natural, left more than right.

10th.—Pulse 52.

11th.—Pulse 60; tongue perfectly clean and moist; bowels acting freely. Not finally relieved of pain till the 22d, when pulse became nearly natural.

Fourth month discharged; giddiness when exposed to sun only.

The case of Philip Thorne, already given, may serve to shew the absence of reaction and gradually diminishing lethargy to time of cure.

This continued labouring and slowness of pulse, either without any intervening stage of exaltation, or with so slight a one as that marked in the first case, I have been led, from my observations on these injuries, to believe the best sign of compression—not necessarily from effused or extravasated blood or matter, as I have shewn, although this may occasionally be the cause, but compression in one form or the other. In the mild and mitigated form occurring in Burn, I doubt the propriety of much bleeding: such depletion as can be effected from the skin and bowels,

was trusted to in that case, and with good success. Moreover, this case is of value, as proving the importance of not unnecessarily meddling with depressions in fracture.

The natural tendency of concussion and compression is to produce, while either the one or the other is the prominent feature of the case, a dilated pupil, the sensibility of the retina being more or less impaired, and a slow and laboured pulse, from a depressed action of the heart, in like manner more or less decided.

These two injuries, or either the one or the other, may be sufficiently strong to paralyse all other actions, or their outward manifestations only, and so gradually relinquish their grasp upon the brain and system, that *their* symptoms, and theirs only, can have been recognised throughout the case of which Burn is a good example.

But more commonly either concussion or compression, particularly when the latter arises from the former, subside, and then the irritation and the inflammation, which are the natural sequences, become developed and manifest. The pupil then becomes morbidly contracted, the retina having exalted sensibility; the pulse, no longer sluggish or feeble, acquires increased volume and velocity, beats sharply against the finger, and often from 100 to 150 per minute. This may in some cases subside, and be followed by the first symptoms of concussion or compression, and so alternate during a period of some months, recurring again and again. In many such cases I have no doubt fluid is compressing, whether from inflammation of serous membrane—the arachnoid—from the deposition of matter—or pressure within the vessels: the two former may always be distinguished from the latter by the sudden relief afforded from the lethargic and other symptoms in the last form of compression, by bleeding. No such relief can be obtained if there be fluid of any kind effused.

The pulse by its frequency and character is our index to the action of the heart, and to the state of the circulation as regards force, quantity, and speed. In all conditions it affords us one of the guides on which we most rely, to determine the nature and degree of deviation from health. It is highly important, therefore, that the indications of the pulse should not be misinterpreted, while considering the nature and extent of the injuries now under consideration.

On what does the heart's action depend? what are the chief influences which modify its force, or change the rhythm of its contractions? for until satisfied on these points, no surgeon can be competent to draw correct conclusions from the pulse. This is a question into which it is impossible to enter at present; but I call your attention to it, and shall merely add for your guidance, that the pulsations of the heart are chiefly under the influence—1st, of respiration; 2d, of the nervous system, any irritation exciting, not a single contraction, but a succession of periodic contractions; and thus the time and the rhythm are occasionally both changed, or only one.

Whenever the changes in the blood induced by respiration are impeded or interrupted, whether the respiratory movements be mechanically stopped, as by closure of the glottis, or by lesion of the nerves on which the muscular combination depends—whatever the cause, in fine, the result is depression of vital action in all the organs of the body, and in the higher animals speedy annihilation.

Interruption of respiration, then, you will bear in mind, enfeebles the heart's action; and that this is not entirely dependent on the nervous centre of the encephalon was proved by Sir Benjamin Brodie, who beheaded a dog after tying the cervical vessels. By keeping up artificial respiration the heart continued to beat for two hours and a half. The influence of respiration here seems to be more important to the heart's action than that of the nervous system, or of the brain at least.

In cold-blooded animals, however, this law seems reversed; for when frogs can neither breathe by the lungs nor by the skin—as, for instance, when immersed in pure hydrogen—they will live for many hours, the heart acting.

On the other hand, the influence of the nervous system on the heart's action is very great, as may be observed wherever the passions are called into play; sudden joy or grief will for a time paralyse its movement. All passions, which are excited states of the nervous

system, accelerate the pulse, and increase the force, with the exception of certain depressing feelings, such as fear; the action of these on the heart is still to accelerate the contractions, but they enfeeble the pulse.

Bichat devoted much time to determine by what part of the nervous system the heart was chiefly influenced—whether its movements were derived immediately from the cardiac plexus and sympathetic system, or through the medium of these from the spinal marrow and brain; and in taking the pulse as a criterion of the nature or degree of injury to the brain, you see at once how important such an inquiry must be.

The history of acephalous monsters proves that circulation may be carried on without a brain, and even without a spinal cord; but when these have once existed in the higher animals, there can be no doubt, from all the facts and experiments collected to elucidate this subject, that the brain and spinal marrow have a great influence on the motion of the heart, and are capable of accelerating or retarding, invigorating or depressing, its action. It seems equally certain, that the heart's action is not wholly dependent upon these.

The brain and spinal cord, as centres of nervous power upon which the sympathetic seems in a great measure to depend for its continued energy, very certainly when injured or affected, react probably through the medium of the nervous fibrils accompanying the blood-vessels upon the sympathetic, and excite its peculiar motor power. With this view, even though the constant source of the heart's action were considered to be the sympathetic, yet its excitement, and the maintenance of its power, must depend upon the brain and medulla spinalis. You are aware that several cerebral nerves are closely connected with the sympathetic nerve, as also that the par vagum enters essentially into the composition of the cardiac plexus; the influence of the brain, therefore, may thus be even more direct.

The causes of change in the rhythm of the heart's contractions giving various kinds of intermittent pulse have not yet been determined, and there is room for a series of experiments of high practical importance on this subject. It seems probable that such change is the effect of a peculiar irritation—peculiar in character rather than violent in degree. I am further confirmed in this view by observations on the pulse in connexion with injuries of the head.

An intermittent pulse, I must maintain, notwithstanding a host of authorities against me—for I am not disposed to close my eyes to the facts which I myself have carefully observed—is not a common symptom; nay, that it is sufficiently uncommon, and very rarely, indeed, exists where the injury is concussion. When it does occur, it is generally where there is compression, with or without other complication. It is only in such a case as the following that I have observed it, and by no means constantly, for many similar ones presented no such symptom or feature.

Case of Lesion of Brain giving an Intermittent Pulse.

William Knight, æt. 15, sanguine temperament. On the 9th of September, 1836, was wounded by a musket-ball, which penetrated the brain at the occiput, entering a little to the left of the occipital process. Shortly after receiving the wound he became lethargic, and was roused with difficulty to answer any question.

Head shaved. Cold lotion. V.S. ad ℥xx. Enema.

2d day.—Passed a restless night; at present quiet; pulse 56, slow, labouring, and intermitting every third beat; pupils dilated, insensible to light; breathing natural; skin warm.

5 P.M. — Attacked with convulsive twitchings of the extremities; pulse small and feeble; motions and urine passed involuntarily. Died next morning.

Post-mortem eight hours after death. —On removing the scalp the pericranium was found injected in the neighbourhood of the wound. A fragment of the inner table of the skull was depressed, and resting on the posterior surface of posterior lobe of the cerebrum of left hemisphere. Pus was found extending over the surface of the brain below the membranes. Substance of brain and vessels of pia mater much injected. The ball passed diagonally across the brain, entering at the posterior part of left posterior lobe, and was found near the opposite side, imbedded in the substance of the right

middle lobe. Purulent matter found along the track of the ball, and also at the base of the skull. The whole of the pia mater gave strong traces of inflammation. Viscera of chest and abdomen healthy.

This case not only gives one of the rare examples I have met with, furnishing intermittent pulse, but it also proves that which I have already dwelt upon at some length, viz. that under violent concussion, neither the pupil nor the pulse will give indication of any irritative or inflammatory action. Here is great and extensive inflammation of membranes and substance of brain, yet the pupils continue widely dilated, the retina perfectly insensible to light, and the pulse slow, labouring, and intermittent, unless it be said the intermittence marked the inflammation — an assertion that cannot be maintained. The implication of the excito-motory system towards the close of the second day is also well marked, commencing by twitchings and convulsions of extremities, and ending by relaxation of the sphincters. Compression much more rarely produces this state of the pupils, in spite of irritation and inflammation: lesion more frequently. The following case seems to me an instance where the lesion rather than the concussion produced this effect:—

Case of Lesion producing permanent loss of sensibility in Retina, and a fixed Pupil during Cerebral Inflammation.

John Jennings, wounded on the 25th of July, 1833, at Oporto, struck by a musket-ball on the left side of frontal bone, which fractured the skull and penetrated the brain. I met him scampering back to his post, across the court-yard of the building at that moment attacked. Seeing him bleeding from the head, I stopped him, and felt with my finger the fracture and the ball below. As we were both under a pretty smart fire where we stood, and the roar of musketry and artillery rendering the voice well nigh inaudible, I pointed to a part of the house where I had established one of the English ambulances, telling him to go there.

It appeared, that the moment my back was turned, instead of going to the medical officers, he reloaded his musket, joined his comrades, and fought out the day. Even the next morning, when in hospital, it appeared he had not a single bad symptom. Pulse natural; little or no pain. He was bled to twenty ounces, and purged.

The next morning (that is, on the third day) there was violent pain in the head. He felt drowsy, and answered in a sluggish and incoherent manner. Pulse full, and rather accelerated; pupils slightly contracted.

(These two features both, in my opinion, mark the distinction, and that his symptoms were those of lesion, compression, and inflammation, the last predominating, rather than concussion.)

I removed several fragments of bone protruding inwards, together with the ball, and with immediate relief. He instantly spoke more clearly, and had a less anxious countenance.

4th day.—Extreme restlessness ever since relieved from his drowsiness by the operation. He has also been sick once. Bowels not acted upon; pulse full and quick; face hot and flushed; vessels distended in the vicinity of wound; answers less readily; pupils dilated; countenance heavy. He has just been bled from a large orifice, to rather more than 20 oz. before a decided impression could be made on the pulse.

Cal. cum Coloc.

6 P.M.—Pulse again full and bounding; face flushed; skin hot; cannot be roused.

Enema. Jalap, Cal. and Rhubarb, st.

10 P.M.—Pulse full and hard. V.S. ad ℥xvj. Copious evacuation also from medicine and enema.

Evening of next day he died.

Post-mortem. — The ball had fractured the frontal bone, anterior to the coronal suture and to the left of the longitudinal sinus, making an opening of the size of a shilling, with a fissure running backward. There was detachment of the dura mater from the bone; inflammation of the membranes generally, with excessive turgescence of the vessels; effusion of serum and lymph on the surface of both hemispheres, in the lateral sinuses and at the base of the brain. The arachnoid was thickened and opaque, the dura-mater also thickened, and, at the point of injury, pulpy; the brain, at the same part, black and and soft; but in the parts distant from the point where the ball entered, the

brain was firm and natural in appearance.

All these post-mortem evidences of inflammation are distinct, and yet there was, during life, a dilated pupil, with the exception of one short period on the third day before operation; the pulse alone giving true indication of the inflammatory process. In a precisely similar case, both as to injury, duration, and termination (*Apjohn*), there was softening and disorganization of the whole brain, and no urgent symptoms for many days; the pupils remaining natural, and the iris contractile.

When compression seems to be the chief agent, a complete state of coma may be induced, and the pupil remain natural (not dilated), and sensible to light. I do not think this could happen in the lethargy of concussion; and in no such case have I ever observed it. The following is a remarkably clearly-marked case, which is further worthy of note as forming one of the only two cases which have come under my notice, where the site of injury was indicated with precision by the patient's movements. The other (*Knight*) is given, p. 521, as presenting quite as unusual a feature—an intermitting pulse.

Case of Compression supervening on Concussion, presenting Coma from each of these causes; no Dilation of Pupil from second.

—— Watson, æt. 50, May 10, 1837, fell down stairs when drunk, a height of about fourteen feet. He pitched upon his head, and was brought into the hospital, about three P.M., insensible.

2d morning after injury.—Recovering, and endeavours to speak. Right pupil not dilated; the left obscured by opacity of cornea. He was bled twice yesterday, 12 oz. each time. Pulse is quiet and regular; tongue moist and coated. Head shaved.

Cold applications. Purgative enema.

3d day.—Understands, but cannot articulate; attempts but cannot protrude the tongue; puts his hand to the left side of his head. Right arm colder than the left; pupils a little contracted, but sensible to the light. Pulse slow; bowels opened once yesterday; convulsive movements of the right arm and of the mouth, with rolling of the eyes.

Emp. Lyttæ nuchæ. Mag. Sulph. cum Ant. Tart. 3tiis horis.

4th.—Can protrude the tongue. Cannot articulate intelligibly; mouth drawn convulsively to right side; convulsive movements of right arm.

5th.—More severe convulsive fits; deteriorating perceptibly; pulse slow and laboured.

6th.—Complete coma; pupil regular, and contracts on suddenly raising the eyelid. Pulse slow; urine thick, and tinged with blood. In comatose state on to the tenth day, when he died.

Post-mortem.—No fissure or fracture of the cranium was observed. The calvarium removed, the dura mater presented a large deep-coloured patch over the upper surface of the left middle lobe. Under this, and between the dura and pia mater, a large quantity of coagulum was found, amounting to six ounces, depressing the left middle lobe over the greater part of its superior surface, separating it from the dura mater nearly half an inch. Vessels of the pia mater were excessively gorged over the whole surface of the brain. The cerebral substance itself showed an injected state of its vessels, and much more than the natural quantity of serum, of a deep tinge, was found in the lateral ventricles. Compression above and in the ventricles must have been considerable.

The details of this case are unusually interesting; proving, 1st, concussion; 2dly, extravasation on the surface of the left cerebrum. Loss of motion in the tongue and power of articulation would indicate paralysis of the fifth, probably within the skull; at all events the third branch of the fifth was affected, and this is further shown by distortion of the mouth. Had there been, instead, paralysis of the portio dura of the seventh, there would have been no distortion of the mouth when the face was at rest; and thus may the affection of these two nerves always be distinguished.

There was also paralysis and loss of temperature of the right upper extremity, evidently cerebral. The excito-motory system was morbidly excited, as was proved by the convulsions on the paralyzed or weakened cerebral side, opposite to the injury. The power of motion remained, but it was beyond the control of the will. The action of the heart, as compression increased, became impaired; the pulse slow and laboured. The pupils remained contractile, even in complete coma, four days before death. The sphincters did not lose their power, although the patient was too comatose to be roused, and you find no

stertorous breathing recorded, confirming all I have said to you, and the general law I have laid down on this point. This case I would describe as one of abolished cerebral functions; exalted excito-motory system, with slightly impaired action of sympathetic, evinced by the impeded circulation.

I have entered thus fully into the analysis of this case, otherwise one of great interest, to shew the process by which the surgeon must seek to unravel the symptoms, referring each to the particular part of the nervous system affected.

Compression is produced in many degrees, and certainly by many distinct causes—in a variety of ways, essentially different. The similarity confined probably to the effects which I believe to be the same, and undistinguishable by any symptoms during life, or general alteration of cerebral structure, when examination is made after death. The difference in the effects and symptoms of compression seems dependent chiefly on the extent of compression, and in some degree on the part compressed. Thus more pressure can be borne, without urgent symptoms, on the superficies of the hemispheres than on the ganglia, by fluid in the ventricles or at the base. The causes of compression connected with violence, may be thus enumerated:—

Compression by fluid on the superior surface at the base or in the interior of the brain; serous effusion; formation of matter; exudation or extravasation of sanguineous fluid.

Compression by coagulum, external to the substance of the brain or within.

Compression by bone or foreign body.

Compression by fungus cerebri pressing a portion of brain through an opening in the skull, of which last kind here is a very beautiful preparation.

PARTICULARS

OF THE

ILLNESS AND DEATH OF THE LATE MR. MORI,

The Violinist.

By E. W. Duffin, Surgeon*.

It is about nine years since I was first consulted professionally by Mr. Mori. At that time he evinced decided symptoms of cerebral disease; and on several occasions I could regard his actions, and the sentiments he expressed, in no other light than as the result of mental aberration. But before attaining so advanced a stage as to give rise to the mental infirmities, peculiarities of habit, and moral impulses he manifested, the disease must have been in progress for a considerable length of time. He was nervous, restless, suspicious, irritable, and impatient of control. He was remarkably zealous and energetic in all his undertakings, and jealous of rivalry to a most incredible extent. On more than one occasion was my aid requested to appease his frantic excitement after witnessing the success of foreign talent—for amongst his own countrymen he had no rival. He was extremely ambitious to arrive at excellence in his profession, and to secure public applause and confidence. Indeed, such was his anxiety to afford general satisfaction, especially on the occasion of his own concerts, that his bodily and mental exertion often produced a degree of nervous excitement that could only be regarded as a species of hallucination; and the public will be surprised to learn that, calm and collected as he used to appear before them—so much so as even to be accused of apathy—the effort to maintain that tranquillity was painful to him in the extreme. On one of these occasions, an hour or two previous to his concert, I was sent for by his family to inquire whether his state of mind was such as to render it prudent to allow of his appearance before the public; but he brooked no control, and always assured us that, when the moment arrived, he could restrain his feelings, conquer his anxieties, and perform his concerto as coolly and collectedly as if nothing had occurred.

It was under a paroxysm such as I have described that he first experienced a singular cerebral attack, which, for a few minutes, deprived him of sight; on the restoration of which he *found his memory for music gone, so that for nearly an hour he could neither read the notes nor play from memory.* This occurred more than three years ago, and he had subsequently several relapses of the same sort. On three of these occasions his left hand remained slightly paralytic for several weeks, so that he could neither exert sufficient pressure to stop the high notes, nor

* This has also been printed in a separate form, but we have been requested by Mr. Duffin to publish it in the Medical Gazette.—Ed. Gaz.

move his fingers with sufficient rapidity to execute delicate passages. After one of these attacks he found himself sensibly paralyzed in every part of his right side, more particularly in his hand and arm, so that it was with the utmost difficulty he could command his bow. Another of his seizures produced loss of memory and difficulty of articulation. As these consequences were never of very long continuance, and it was desirable to conceal them as much as possible from the public, I could always succeed in preventing his performance till he had nearly recovered; but usually of late he played too early, and his defects in consequence, both in execution and tone, did not pass unnoticed by close and accurate observers of his performances.

In addition to extreme sensibility in regard to professional reputation, he was excessively desirous of accumulating wealth; and as his disease progressed, in like proportion did he become morbidly sensitive and avaricious: yet he has by no means died so rich as is currently reported; his family will be but indifferently provided for. Had his natural passions and propensities taken a different course, it is more than probable that, influenced as they were by a morbid brain, they would have led him to the commission of some outrageous act of insanity, which might have consigned him to the precincts of an asylum. Many an individual less deranged than he may be said to have been has met such a fate. But so long as they pursued a natural channel they were never viewed in this light; and, had not a post-mortem examination of his body proved how little he was accountable for their morbid manifestation, much unmerited obloquy might have attached to his memory.

This exposition, it is hoped, will go far to reconcile the resentment and solace the injured feelings of those whom his uncourteous and irritable temper may have at times offended. Notwithstanding the morbid passion which the impulse of the moment might excite, Mori had still many redeeming qualities. He was warmly attached to his family, kindly disposed towards his friends, grateful for services rendered, and very forgiving and forgetful of injuries.

The death of his wife, which happened about eighteen months ago in the same awful and sudden manner, made a great impression on his mind. His grief, though short, was very poignant, and sincere, and wrought a great change in his dispositions and moral habits. He became comparatively indifferent to every thing which had before so much excited and interested him. Prior to her decease he was accustomed to practise incessantly; the violin was scarcely ever out of his hand; and whilst conversing with any one who called, either out of compliment or on business, he continued fingering such passages of difficulty as he was desirous of overcoming. He slept little; in fact, watchfulness was one of the most prominent symptoms of his disease. He was extremely restless, and used to walk about from room to room, practising and talking all the time.

Unfortunately, a few months after Mrs. Mori's death, another powerful passion took possession of his breast, for the occurrence and uncontrollable nature of which at such an untimely period he was, perhaps, no more accountable than he was for the resistless influence which appeared to govern all his other sentiments and propensities. He became attached to a lady of high professional attainments; and in this passion all others were absorbed, *even his love of gain*, for he stated to me that he had offered, and was still willing to make, any pecuniary sacrifice to obtain the object of his affections. His disease now began to gain more rapidly upon him. Far be it from me, however, to allege that the progress of his malady necessarily depended upon unrequited affection, though doubtless the influence of this on a diseased brain would contribute to feed it. He ceased to practise, and became comparatively indifferent to his own success or to that of others.

The physical evidences of his complaint had become now more apparent, and the unhealthy aspect of his countenance attracted universal attention. Is it not, then, a most surprising circumstance that, labouring under such a multitude of jarring passions, morbidly heightened by uncontrollable disease in the brain, he should have still retained the influence he had acquired among his professional brethren, as well as the interest he had excited in the mind of the public? He now more frequently applied to me for advice. A variety of

stertorous, in addition to those already all I have narrated, daily declared themselves. He was affected with a very anomalous and extensive ulceration of the throat, and his digestive organs became greatly deranged. But he never on any occasion complained of uneasiness either in the chest or back, or exhibited any diagnostic indication of the extraordinary aneurism that terminated his existence*. His pulse was always feeble, but regular and healthy in other respects.

These remarks bring my history to about the 3d instant, when he was considerably amended in his general health, but completely upset again by the occurrence of his second concert of this season, on the 5th. On that occasion, I am informed, his strange conduct behind the scenes induced a strong belief in the minds of his brethren that he was the victim of mental infirmity.

Late in the evening of the 12th instant, he called at my house in a state of the utmost agitation, and informed me that a few hours before he had been seized with a sudden pain in his back, which had gradually extended itself along the whole length of the spine; that this pain was very much increased on motion; that it prevented him standing upright; and that it was gradually extending itself across the chest, so as to produce a degree of constriction that materially oppressed his respiration. His hands were cold and tremulous; his pulse was feeble, but regular; and his expression of countenance indicated the greatest anxiety. On applying my ear to his chest, I found the heart beating slowly, softly, extensively, and in a measured manner; the breathing seemed much oppressed, but I did not detect any other morbid phenomenon. Indeed, as will presently be shown, the diagnostic symptoms of the earlier stages of the disorder, which terminated his exisistence, were masked by the rapid advance it had made before he called upon me. Perceiving that he was very seriously ill, and not liking to trust him to return home alone, as I was at the instant called to a gentleman in the neighbourhood, I requested a professional friend to accompany him in a coach, and I followed in half an hour afterwards. Such remedies were then prescribed for him as appeared to me most likely to afford immediate relief; and we agreed, as it was by this time late at night, that if not better on the morrow, he should be again visited by some of the professional friends who been requested on former occasions to meet me in consultation on his case.

On the following day, however, he was so much better that he declined taking any further advice, and in the evening was so far relieved that he got up and walked about his room. At twelve o'clock he retired to rest; and in about half an hour afterwards, his family, who selpt in an adjoining chamber, hearing a strange noise, went to him, and found him struggling for breath. In a few minutes he expired.

When Mr. Mori applied to me on the previous evening, I conceived it probable that the pain and uneasiness he complained of in the back, coupled with the collapsed state of the countenance, shivering and tremulous motion of the hands, and presumed state of the brain, might be precursory of typhus or some other fever, more especially as I was aware that he had for several days previously undergone extreme bodily fatigue and mental anxiety; but being desirous to avoid alarming his family by expressing such an opinion hastily, as his manner of complaining resembled in many respects an acute rheumatic seizure, I desired his friends, as the readiest answer to the repeated inquiries that were made respecting him, to say that he was affected with rheumatism in the back and loins; hence the origin of the absurd report which got into circulation, that "he died of lumbago."

Post-mortem Examination.—On the day following his decease, the body was examined, in the presence of Dr. Child, Messrs. Rogers and Balderson, and several personal friends of the family.

On removing the cranium, a considerable quantity of bloody serum escaped from under the dura mater. The sinuses and venous system in general were very much gorged with blood. The dura mater was somewhat thickened in its texture, and more dense than usual. It adhered very firmly to the glands of Pacchioni, which were considerably enlarged, and in a tubercular semi-suppurating condition. The arachnoid membrane was thickened and opaque—the result of chronic inflammation of its texture. A milk-coloured serum, and portions of coagulable lymph,

* It may not be unworthy of remark, that in this respect his case very much resembled that of the late Dr. Barry.

were effused under this coat throughout its whole surface, so abundantly as to separate it from the pia mater to the extent of the sixth of an inch. The pia mater and substance of the brain were softened, and in some parts reduced to a pultaceous consistence. The ventricles were filled with serous effusion; and a considerable quantity of fluid ran out from the spinal canal. The arterial system was ossified to a most remarkable extent in every part of its ramifications. The larger arteries, from being closely *annulated* with bony deposit, were preserved quite patulous in their calibre, and presented the appearance of the trachea of a small bird, conveying the same impression, when pinched betwixt the fingers, as this tube would impart when similarly examined. The investing membranes of the arteries at the base of the brain, and their larger branches, as well as of those of the internal carotids, ramified on the corpus callosum, and on the anterior and middle lobes of the brain, were stretched, so as to allow the vessels to float about, and to be easily raised to a distance of several lines from the surface on which they rested. These elongations were so considerable, that they might not inaptly be compared to the mesenteric elongations of the peritoneal covering of the intestines. The choroid plexus of veins was turgid, varicose, and bleached. These were all the morbid appearances observed in the head.

The right cavity of the chest contained between *six and seven pounds of blood*, which had separated into a bloody serum and loose, grumous, dark-coloured coagulum. This was found to proceed from a rupture of the pleura, opposite the attachment of the tenth rib to the spine, where it is reflected to form the thoracic partition. One tracing this opening, which was large enough to admit my forefinger, we found the cavity of the posterior mediastinum, in its whole length, full of a dark coagulum, which was easily separable from its parietes. The effusion had distended its walls, and forced a way to a considerable extent into the loose cellular membrane under the pleural covering of the posterior surface of the lungs, so as to produce a very extensive ecchymosis of this part. On further examination, this effusion of blood was ascertained to have proceeded from an aneurism of the aorta of a very remarkable description, the diseased and easily separable exhibiting cha- blood-vessel admitting of ou uliar as com- formation of the tumor in th ously in use, factory manner. certaining

It appeared to have been origi been formed by ulceration of the te to coat of the artery, opposite to t he body of the eighth dorsal vertebra, and e on the right side of the vessel. This opening was irregular in form, but approaching to that of an oval, and large enough to admit a moderate-sized crow-quill. A second ulceration, about the size and shape of a small split bean, which had succeeded in destroying the inner coat of the vessel, was found close to the ulcerated opening just described. The blood, it appears, had first insinuated itself at this point between the serous and muscular coats of the aorta, and afterwards had gradually separated these on the posterior and right lateral surface in *their whole extent;* the sac running upwards, and following the course of the arch, till the artery emerged from the pericardium, and proceeding downwards to within an inch of the bifurcation of the vessel. It presented the appearance of a secondary aorta, of irregular calibre. At its lower fourth it did not much exceed the diameter of the blood-vessel; its central half was nearly double the calibre of the vessel, and the upper fourth was of intermediate capacity. The widest portion was opposite the point of formation of the aneurism, extending from about the fourth to the tenth dorsal vertebra. That it was formed by the mechanical separation of the coats of the artery, was most satisfactorily ascertained, as the vessel was in a very diseased state, and admitted of being torn with the fingers, so as to prolong or enlarge the sac in any direction. The muscular layer was converted into a white tough fibrous substance, that could be easily torn in the direction of its fibres, and which, when peeled off from the cellular coat, presented the appearance of a piece of spinal medullary matter macerated in an alcoholic solution of bichlorate of mercury. The serous coat of the artery was studded with large ossific points and tubercles, some of which were as large as a moderate-sized bean, and in a state of semi-suppuration. It was one of these, I make no doubt, that had suppurated and produced the ulcer, which gave rise to the aneurism. That portion of the serous coat which was

stertorous, in all I [illegible] erated, its outer coverings, and I [illegible] was affe common partition between and extensmal sac and the artery, was and hy thickened, and capable of powerderanesistance. The heart was fully sion e time the ordinary size, and soft in texture. The parietes of the left ventricle were hypertrophied. The coronary arteries resembled those of the brain; they were closely *annulated* with ossific deposit, so as to present the appearance already noticed. They seemed to be detached from their bed, and enveloped in a doubling of serous membrane in the way we have already explained in describing those of the brain; and in like manner was the connecting fold elongated, so as to isolate the vessels, and let them float loose. The lungs, especially those of the right side, which were compressed by the effusion of so large a quantity of blood into the cavity of the pleura, presented a very deep purple colour; and at their posterior surface, as already stated, they were ecchymosed to a very surprising extent. The pulmonary arterial system was in a health condition. The bodies of the vertebræ in the whole length of the spine, more particularly towards the right side, were absorbed in proportion to the duration and degree of pressure to which they had been subject; the sixth, seventh, eighth, and ninth, were most affected, and to a considerable extent,—from which I conclude that the aneurism must have been a length of time in progress. It is only singular that Mr. Mori never at any period complained of symptoms that led his medical attendants (and many from time to time prescribed for him) to apply their ear to his chest. Had they done so, it is more than probable the startling discovery that he laboured under aneurism would have been made.

When he first consulted me, on the 12th instant, the cavity of the posterior mediastinum must have been full of blood, and it was the rupture of the sac into this cavity that occasioned the sudden and subsequent symptoms, resembling, in many respects, an acute rheumatic seizure of the dorsal, lumbar, and intercostal muscles. When I applied my ear to the region of the heart, I found the action of this organ to accord with his pulse, 88, soft, and, as it were, stifled, but I heard no other sound: the fact is, the *bruit de soufflet*, pulsating, and other characteristic phenomena, were then obscured by the immense effusion of blood with which the aneurismal sac was surrounded, and the pressure consequent on the confinement of this within the mediastinal pleura. Indeed, I much doubt whether in a case of this nature the diagnostic phenomena would not at all periods of its progress have been very obscure, complex, and difficult of analysis. No one would have ever imagined that an aneurism would equal in extent the vessel that produced it, especially such an artery as the aorta. The ease and remission of symptoms he experienced on the following day, and which induced him to believe that his complaint was on the decline, were owing to the distended parts having accommodated themselves to the novel circumstances in which they were placed; and the immediate cause of death was the sudden rupture of the mediastinal pleura, so as to admit of a further, and indeed tremendous, effusion of blood into the cavity of the chest, and completely compress the lungs, destroy the balance of the circulation, and thus extinguish life. No other morbid appearances were discovered.

Before closing this memoir, which is replete with novelty and interest both to the physiologist and pathologist, and not less so to the metaphysician, we may be allowed to indulge in a few reflections on the singular facts it presents to consideration. That a man who laboured under such extensive disease in the brain, and who exhibited so many indications of the morbid influence this exerted on the various passions of the mind, should have been capable of displaying so much well-directed energy as Mori always evinced in every thing he undertook, is very remarkable; and the more so when we remember that he was always at issue with his professional brethren, and had their prejudices, opposition, and, in many instances, personal resentment to overcome, before any arrangements could be entered into. Let us remember the admirable manner in which he got up his concerts, the judgment with which the music was selected, and the excellent order which distinguished them, the interest and influence he possessed in controlling an orchestre, and the public approbation and success with which his efforts were always crowned, and we cannot but express our astonishment that such an

individual was himself in reality scarcely accountable for many of his own actions; and let it be borne in mind, moreover, that during a great part of his time he was himself contending with a multitude of conflicting passions, enough, even had his brain been sound, to have induced disease. That being on several occasions seized with paralysis, loss of sight and memory, *in consequence of organic disease of the brain*, he should again recover the use of the parts and senses affected, is no less remarkable. And when we reflect on the extensive and singular character of the aneurismal sac, and the slender boundary that it placed placed betwixt life and death for many months, we cannot but shudder at the awful risk he daily ran of being suddenly plunged into eternity in the midst of his most successful undertakings.

VACCINE LYMPH.

To the Editor of the Medical Gazette.

Sir,

As every circumstance connected with the improvement of the practice of vaccination is of importance to our profession and to the public, I trust you will give a place in your journal to the following statement:—

About the middle of February last I received from the National Vaccine Establishment a supply of lymph, in consequence of an application on my part by letter to Dr. Hue, the registrar, in the usual way. About a month afterwards, Dr. Hue wrote to me to request I would report to him the result of this supply. I did so by return of post, informing him that this lymph had proved remarkably active, all the points having taken, and produced in every instance vesicles of unusually large size, with areolæ of greater extent and intensity, and accompanied in most instances with more sympathetic fever than I had been in the habit of witnessing: that I had watched it through eighteen cases, and that two of my neighbours, elderly practitioners in the town, had seen some of the subjects, and declared the vesicles more like the vaccine originally introduced by Dr. Jenner than any they had seen of late years.

Continuing to find successive cases from the same lymph, exhibiting characters so distinct and peculiar as compared with the vaccine previously in use, I naturally felt desirous of ascertaining from what source the lymph had been derived; and I accordingly wrote to Dr. Hue to ask him if the lymph he had sent me, and concerning which he had afterwards inquired, was Mr. Estlin's, of Bristol. To this inquiry no answer was returned. Not liking to remain in uncertainty upon a point so interesting, I sent a supply of it to Mr. Estlin, with a request that he would be so kind as to try the matter, and let me know what he thought of it. Mr. E. has been so obliging as to comply with my request, and his statement is, that he considers it "excellent lymph," and that "he can hardly say there is any appreciable difference between it and that which he has introduced."

I consider, therefore, that I am now using vaccine lymph recently procured from the cow, and furnished by the National Vaccine Establishment, although not avowed to be so by the Board; and I trust this fact (if so it be) may be taken as evidence that the Board is disposed to reconsider the opinion put forth in their Annual Report, as to the inexpediency of resorting again to the cow, and that they are now disseminating the same active virus as they sent to me throughout the kingdom.

Should, however, any of your readers feel dissatisfied with the virus they receive from the National Vaccine Establishment (to which the profession and the public are entitled to look up for every aid in attempts to perfect the process of vaccination), I shall be happy to furnish them with a supply as promptly as my limited opportunities will admit, on application made to me free of expense.—I am, sir,

Your obedient servant,

N. Adams.

Lymington, June 29, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

Medical Notes and Reflections. By Henry Holland, M.D. F.R.S., &c. London, 1839. 8vo. pp. 628.

The work before us is divided into thirty-five chapters, on the following

subjects: — On medical evidence; on hereditary disease; bleeding in affections of the brain; sudorific medicines; effects of mental attention on bodily organs; on points where a patient may judge for himself; on the connection of certain diseases; on the abuse of purgative medicines; on methods of prescription; on gout, and the use of colchicum; on some supposed diseases of the spine; on the brain as a double organ; on some points in the pathology of the colon; the epidemic influenzas of late years; dreaming, insanity, intoxication, &c.; mercurial medicines; the exercise of respiration; method of inquiry as to contagion; the medical treatment of old age; the use of emetics; the uses of diluents; morbid actions of intermittent kind; diet and disorders of digestion; on diseases commonly occurring but once in life; on the present questions regarding vaccination; the use of opiates; sleep; the influence of weather in relation to disease; time as an element in mental functions; phrenology; on disturbed balance of circulation, and metastasis of disease; the use of digitalis; antimonial medicines; the hypothesis of insect life as a cause of disease? the present state of inquiry into the nervous system.

Without pretending to abridge so large a volume, or to give an analysis of Dr. Holland's opinions on so many subjects, we will just mention a few of the most prominent points.

The following passage, in the chapter on hereditary disease, is very interesting: —

"An instance is known to me of hydrocele occurring in three out of four successive generations, in one family — the omission adding to the singularity of the fact, from its depending on a female being the third in the series, in whose son the complaint re-appeared. I am acquainted with a family in which there are three examples, the father and two children, of inability to distinguish red as a colour. Another example, resembling the last, is known to me, where three brothers, and two or three children of their families, have the inability to distinguish between blue and pink. Instances of this kind as an hereditary defect are far from infrequent. I have known squinting to occur in every one of five children, where both parents had this defect. The repetition of cases of deaf and dumb children in the same family is well known to those who are concerned in institutions for the relief of this congenital defect. An example has recently occurred to me of that remarkable affection, the *suffusio dimidians*, existing in a father and his daughter; and brought on in each by circumstances singularly alike. In another family I have seen several instances of the peculiar tremor tendinum of the hands and arms, which is sometimes called the shaking palsy; and which here occurred in young persons of sixteen or eighteen, as well as in those more advanced in life. In this case, too, I had proof of the peculiarity having gone through at least three generations. Similarity in the form and setting of the teeth, as well as in the colour of the hair, is often observed between parents and children: and left-handedness, from whatever this proceeds, sometimes takes the character of a family peculiarity. In a family where the father had a singular elongation of the upper eyelid, seven or eight children were born with the same deformity, two or three other children having it not. In like manner I have seen enlarged tonsils occurring in almost every individual of a numerous family, without other cause by which to explain it.

"Enuresis in children, from whatever source arising, occurs sometimes in so many individuals of the same family, as to make it almost certain that it has a common congenital origin. What is not less remarkable, as an instance of similar specialty, emphysema of the lungs has been ascertained to depend in the majority of cases on hereditary influence, independently of any disposition to tubercular pulmonary disease. Another instance, which may be termed special, though belonging to a part of structure diffused over the whole body, is the hæmorrhagic diathesis. Though I do not find in my notes any well-marked examples of its hereditary nature, except where confined to the lungs and connected with phthisical constitution, yet some are recorded so explicit as scarcely to leave the fact in doubt; and remarkable further, from the seeming limitation of these instances to the male sex. Nor is there, indeed, greater difficulty of comprehension here, than where a more limited portion of structure is concerned. The points of question are the same in each case; and the solution, if ever obtained, must be com-

mon to both. I might add to these many similar instances; but they are too familiar to require further recital. It will be remarked, that all are perfectly congruous with, and in no respect more wonderful than the common transmission from parant to offspring of external features, in the peculiarities of which no diseased action is involved.

"There are some examples of anormal structure or disease, which, though frequently occurring in detached instances, yet are so especially numerous in certain localities, as to give suspicion, in the absence of other sufficient causes, that hereditary tendency is much concerned. Such is the goitre of particular districts, no consistent explanation of which has yet been given, founded on local circumstances of climate or mode of life. The Plica polonica is another instance to the same effect. I might apply the same remark, though with greater doubt, to that curious affection, the Trismus nascentium, prevalent in particular localities, and these widely different in all physical circumstances. The great frequency of stone in the bladder, in certain districts where there is no obvious peculiarity of air, food, or water, as a probable cause; and the common tendency to lithic acid deposits in the same family, may admit of like explanation. And this is further sanctioned by the certain connection of the calculus with the gouty diathesis."—Pp. 20—22.

In his remarks on bleeding in affections of the brain, Dr. Holland's censures of the custom of indiscriminate venesection in paralysis and other cerebral diseases are very judicious. In delirium tremens, he says, the treatment is seldom mistaken; but in many similar, though less distinct states, the mischief done by large bleedings is sometimes irreparable. The whole of this chapter is worth not only reading but studying.

In the chapter on the "effects of mental attention on bodily organs," there are some curious and useful observations on the effects produced on the bodily organs by the direction of consciousness to them. Thus swallowing is made more difficult by the attention being fixed upon it; and in the same way a sense of weight and oppression may be produced at the stomach; and palpitation of the heart, or hurried or choked respiration, may be brought on in the same manner. Dr. Holland thinks, with great justice, that the symptoms produced by the infinitesimal doses of the homœopathists admit of this explanation.

"An example occurs to me at this moment, where the expectation of any strong pressure of the hand instantly creates uneasiness, approaching to pain, in the perinæum; this effect in greater degree invariably following actual pressure."—P. 70, note.

The next chapter, "on points where a patient may judge for himself," is very good; but as we lately discussed it in our leading article*, we shall of course pass over it now.

The same may be said of the seventh chapter, "on the abuse of purgative medicines," which was the subject of editorial comment in an earlier number†.

At the end of his observations "on methods of prescription," our author seems apprehensive that the remarks will be thought either too familiar, or too much *ex cathedrâ*. We do not feel inclined ourselves to make either of these objections; for plain remarks on plain things are much wanted in these days; nor is there any tone in them that reminds us of the professorial chair; though, if there were, would this be blameable in a physician of our author's standing and station? The fault we should find with these observations is, that they are by far too short; the chapter consists of only six pages, and of these but three are strictly devoted to methods of prescription. The same objection may be made to several other chapters: for example, the one "on some supposed diseases of the spine." An essay of six pages on such a subject is too tantalizing.

Epidemic influenza is now so frequent a visitor, that we make no apology for giving at some length the opinions of our author concerning its treatment:—

"A question, however, may be raised regarding the influenza, whether the disorder does not admit of being stopped in the outset; and common opinion, founded on cases where the symptoms speedily subside after their first appearance, leans towards this belief. The proof, however, is ambiguous, seeing the variations which may arise from dif-

* Med. Gaz. May 25, 1839.
† Ibid. April 20, 1839.

ferent states of the virus or temperament of the patient; and the frequency of such cases occurring under different remedies, or where none whatsoever have been employed. If I were from my own observation to name any remedy, having some pretension to the effect, it would be an active emetic in the earliest stage of the symptoms; but, for the reason just given, I am far from thinking this an assured fact.

"Whether so or not, vomiting is, I believe, the best means we can employ at the commencement of the disease, as well as under different conditions of its progress. That it should have been so insufficiently used, in the treatment of the influenza in this country, must be attributed to the same causes which have made the employment of emetics comparatively so infrequent in modern practice. In clearing the mucous lining both of the air passages and stomach from the secretions which load them, no remedy is of equal avail; and none safer in its application, or more immediately attesting the good that has been obtained.

"The employment of purgatives in influenza is probably best regulated by the principles which direct their use in the exanthematous fevers. Frequent and violent action of this kind I believe to be useless, or positively injurious, in the disorder; having no specific influence as a remedy, and tending to increase irritation and depress the general powers. This is probably equally true when the pneumonic symptoms are most severe, and where the virus affects chiefly the membranes of the alimentary canal. The cough which is so peculiarly characteristic of the disorder, whether proceeding from either or both these sources, is often manifestly increased by the irritation thus given; while the bowels, under excess of this practice, readily become tympanitic, and more fretful and disordered in their actions.

"These comments of course do not apply to a better regulated use of the remedy. The proper use of purgatives in influenza seems to be to clear the bowels thoroughly in the outset; and subsequently, by such as are simple and least irritating, to prevent accumulation or disordered secretions. Nor does this view exclude the employment of mercurials to correct and maintain these secretions in healthy state. However it may be at the beginning, the liver usually gets gorged, and its functions disturbed, in the progress of the malady; and this is true even in many of those slighter cases, where the patient, though for weeks perhaps under the influence of a morbid cause, is never actually withdrawn from his ordinary occupations. To relieve this state, mercurials are the speediest remedy; and often more effectual, generally less irritating, when uncombined with other cathartics. So employed, with the intervention of stronger doses occasionally, calomel and blue pill act most beneficially, not simply in relieving present symptoms, but in preventing many of the most distressing sequelæ of the disease. And this is an effect which, in my experience, is by no means equally produced by mere purgatives frequently or harshly employed.

"I have never known any certain benefit from the treatment of influenza by sudorific medicines. Ambiguous in use in other cases, they are still less called for in a disorder of which continued and copious perspiration is one of the most frequent symptoms. If antimonials are of any avail here, it is not, I believe, under this view, or even as a common febrifuge, but solely as one means among others of exciting vomiting, where this is desirable.

"The same opinion may be fairly given as to the whole class of expectorants. I never saw any good obtained from them in the influenza, unless when unintentionally they have acted more or less as emetics. The act of vomiting is in truth the most effectual expectorant in most cases where this action is urgently required.

"It seems necessary to add opium to the list of medicines, from which little certain benefit is to be had in this disorder. The restlessness at night, which is so general a symptom, would seem to require its use; but from some cause or other it is rarely effectual in giving much relief: and, though the cough may for a while be mitigated or suppressed by this remedy, it is doubtful whether the good so obtained is an equivalent to the disadvantages in various ways incurred."—Pp. 206-208.

We are rather sorry to find encouragement by such high authority to the habit of giving mercurials on slight occasions, a point which is the opprobrium of British practice; nor do we see

that the spontaneous perspirations which often occur in the disease are any strong objection to the use of antimonials.

Bleeding, he adds, is generally bad; when much doubt exists as to its propriety, blisters may be tried first, and the epigastrium is commonly the best place for their application. Stimulants are often useful, the pulse being generally a faithful guide to their administration. The majority of cases require rather the forbearance of the physician than active remedies.

"The only other remark I have to offer regards the use of bark, or the sulphate of quina, in the influenza. Its value here is unquestionable; derived not simply from its quality as a tonic, but further, and more especially, from its specific power in various intermittent affections. Any inference that might be drawn as to its use, from the tendency in the disorder to these intermittent actions, is fully justified by the actual effects. It relieves them, when fully established, almost as speedily and certainly as the attacks of a common ague; and this whatever the part of the body so affected. This remarkable power over one of the conditions of the disease gives so far a specific character to the remedy, that it may rightly be adopted in prevention of a state which it is capable of curing. It is not easy to define an exact time at which its use should be begun; this must vary in different temperaments, and in different degrees of the disorder. But it is an inference, from the reasons already stated, that quinine may be given safely and beneficially in many cases where there is still hard cough, with pain, oppression, and restlessness; and experience confirms this conclusion. A soft feeble pulse, and moist skin, often concur with these symptoms, and furnish additional authority for the practice. If the cough itself, as frequently happens, tends to intermittent character, the security of the remedy becomes greater, and its effects more speedy."—Pp. 210, 211.

We must content ourselves with half a dozen more short extracts:—

"Hæmatemesis, however large in amount, rarely needs any active control. It expresses more distinctly, perhaps, than any other hæmorrhage, the need of the relief which it actually affords to a part of the circulation; and I believe more injury than good to be done by the means often used to check it. The same remark will apply to hæmaturia; with some qualification for cases where it originates in calculi, or disease of the kidney."—P. 280.

"The value of emetics in the treatment of Cynanche tonsillaris, though understood as matter of medical precept, is not equally regarded in practice. Nor, indeed, as a general fact, do we sufficiently keep in view the close relation between the several parts of the internal fauces, and the membranes of the œsophagus and stomach; and the frequent and singular translations of morbid action which take place along this continuity of surface. Many more exact interpretations of disease might be derived from looking to this connection through the medium of contiguous structure and function, than from that minute nomenclature which is formed upon the mere locality of symptoms: and the indications of treament would in the same proportion become more exact, as in the use of emetics under the circumstances to which I am now referring.

"The liver, and the whole system of the portal circulation, are singularly under the beneficial influence of this remedy. Congestion, so prone to occur in this part of the body at the commencement of most fevers, as well as in other diseases, is lessened or removed by vomiting,—the passage of bile into the bowels rendered more free,—other secretions promoted or restored,—purging often obtained without further aid,—and a general state of all these viscera induced, peculiarly tending to lessen febrile action, and especially in those cases where it arises directly from gastric disorder.

"In most of the slighter cases of jaundice with which we have to deal, emetics will be found much more capable of speedily restoring the passage of bile into the bowel than any other means; and the instances are numerous (including particularly those fevers of warm climates, which, however variously designated, have all such close relation to the functions of the liver and the circulation through the chylopoietic viscera) where the direct combination of an active emetic and purgative medicine in the outset of disease, with repetition of the same means when needful, has effect in subduing the violence of disorder beyond any other remedy. This com-

bination is not sufficiently employed in ordinary practice, in the many cases where speedy disgorgement is required of the part of the system just referred to."—Pp. 291, 292.

"The ancients, as is well known, employed friction under a more general conception of its use than we do; not merely as a remedy for feebleness or swelling of limbs, but as altering the condition of the whole body. And, without adopting all they have affirmed on this subject, it is certain that its employment, even in our climate, might be beneficially extended in a variety of cases; in none more than those of enfeebled or disordered digestion. So applied, it affords another example of the many important relations subsisting between the external and internal surfaces of the body.

"Of the use of anointing, as practised by the ancients, we know from experience much less. Some explanation of its employment in tropical climates may be found in the protection it gives against the direct effects of solar heat on the skin. There is reason, as well as scope, for making larger trials of it as a curative means, even in disorders of the alimentary canal. The harsh dry skin of the dyspeptic patient might be improved in its texture and functions by rubbing with warm oils, &c., where wholly unaffected by internal remedies given for the same object. In one or two cases, I have had cause to infer that much benefit was obtained by this method; but, like most other external means, it would require more time and perseverance than the temper of the dyspeptic will often concede to such remedies."—P. 366, note.

"To some of my readers the instance may be known of a late physician, eminent for his learning, who underwent the scarlet fever three times; probably from some peculiarity of habit in reference to the disease."—P. 388, note.

"In speaking of the effects of coffee on the nervous system, I may mention a statement I have heard from one or two West Indians, that the aroma of this berry, strongly concentrated and long applied, is capable of producing delirium, or some degree of aberration of mind. This account I first received in a case of a young man, a native of St. Domingo, who arrived in this country in a state approaching to mania, and died soon afterwards. His illness was attributed by a friend who accompanied him (and who assured me he had known similar cases), to his having slept during the voyage in a cabin half filled with bags of coffee. I have had no means of ascertaining the truth of this opinion, which, in fact, was disproved in the case in question, by cerebral disease actually discovered, and presumably of a date anterior to the voyage.

"The influence of coffee and tea, in relation to sleep, seems to depend upon some similar cause in each case, whatever this may be. Even the peculiar sensation about the præcordia (the effect, it is to be supposed, of the state induced on the coats of the stomach) is very much alike in both cases. This sensation, familiar to persons who are thus affected, often continues for six or eight hours, and bears proportion apparently to the influence of those liquids in preventing sleep. It is certain, and easily to be understood, that all such effects are much more modified (increased, perhaps, as well as lessened) by conjunction with other articles of food, and especially with wine."—Pp. 444, 445, note.

"Dr. Stokes, in his work on Diseases of the Chest, remarks that the previous use of tartar emetic in pneumonia seems to facilitate the further action of mercury in subduing the inflammation. He advises that in typhoid pneumonia the mercurial treatment should be pursued in preference to that by antimonials. What I have seen would lead me to concur in both these points of practice."—P. 554, note.

Our author says in his note, at p. 595, that the German physiologists have availed themselves of the richness of their language in describing the principle of organization, and that "no other modern language could furnish such phrases as '*die bewusstlos wirkende zweckmässige Thätigkeit*,'—'*die nach vernünftigen Gesetzen wirkende organizirende Kraft*,' &c., which we find in the writings of Müller."

Nevertheless, if put to our mettle, we would endeavour to translate these phrases by "the activity which unconsciously works to its end"—and—"the organizing force which works according to rational laws." If this does not satisfy our author, we hope he will at least say of the tranlator, *magnis tamen excidit ausis!*

In conclusion, we thank Dr. Holland

for the useful hints and instructions which so frequently occur in this volume—a volume which could only have proceeded from one who was a reflecting as well as an active practitioner—from one who knew how essential it was to add to his own experience, that of the generations which had preceded him.

MEDICAL GAZETTE.

Saturday, July 6, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE LATE MEDICAL ELECTIONS.

JUDGING by the numerous places that have been vacant in our hospitals and other institutions during the last month, and the numerous competitors that have started for each, one might imagine the medical profession to be in a very prosperous state. There have been, we believe, no less than sixteen places to dispose of, and upwards of ninety candidates for them *; and in almost every instance the contest has been fought with the energy of an engagement on whose result the whole fame or the life of the combatants depended. But, unfortunately, this anxiety for success is no evidence of the real value of the object pursued; every one would strive for the mastery in any thing, however trifling; on the same principle on which a game of chess has often caused as much individual excitement as a battle of Waterloo. But in this case, we fear that the number of candidates was only the result of the great number of the profession who are unemployed, or insufficiently remunerated, and that the eagerness of their canvassing was (as far as they are concerned) only an indication of the urgent need which each feels to increase his reputation and his income, by any means, however feeble or remote.

	Places.	Candidates.
* London Hospital	1	4
St. George's Hospital	2	6
Charing-Cross Hospital	1	4
Children's Infirmary	1	3
St. James's Dispensary	1	2 at least.
Argus Life Office	1	15
University Medical Examiners	9	60
	16	94

Many of the offices which have lately become vacant are entirely gratuitous, and many more are only remotely profitable through the uncertain reputation which they may bring by placing their possessor on a higher elevation, where he may be more distinctly and more conspicuously seen than he can be in his own consulting-room—an advantage which, however brightly it may shine in the eyes of the hopeful aspirant, is obscure and scarcely perceptible to the possessor.

The most novel feature, however, of the last month, has been the offering up to competition some places with salaries—Examinerships at the London University, with the promise of actual and permanent life annuities, contingent only on the success of the establishment. The thing was so new in medicine, that, as if to show their approbation of such unexpected liberality, sixty candidates, all men of some renown, started for nine places, averaging less than 200*l.* a year each.

If we could feel certain that party had no influence in obtaining this boon from the government, we should hail it as a omen of better days approaching for the profession—days in which it will be placed, in this respect at least, upon a level with the law; when there will be as many paid medical inspectors and examiners as there are now commissioners and revisers—"barristers of five years' standing." Medicine needs these auxiliaries even more than law, because no public measure can possibly afford it so much benefit as the law obtains from every new act of parliament. It was calculated,

for example, that the passing of the Reform Bill alone, added an annual half million to the general legal expenditure of the public, and the Municipal and Poor-law Bills have probably added not much less to it. Alas! when will some such benignant but productive annual epidemic fall to our profit? What an advantage have they who feed upon the disturbed and unruly tempers of men, and who are paid for keeping up the irritation, and so perpetuating their own profit, over those who subsist by disordered bodies, in soothing which they do but dry up their own emolument.

But for the late elections: the smallness of the stake has been no measure of the ardour of the contest; and in some cases it has been fought with a total disregard of convenience, expenditure, and, we had almost said, of decency. Not a scheme has been omitted, nor an inducement lost sight of, that might bring voters to the poll; and the whole transaction has assumed the characters rather of a borough election, between two mob-orators, than of a calm and judicious decision upon the fairly stated claims of two gentlemen of a scientific profession. This has been especially the case at the London Hospital; and it is impossible not to lament the extravagances into which each of the candidates has there suffered himself to be urged by the other, in their contest. Every feeling has been interested; politics and religion have each been brought forward to obtain their supporters; and personal invective and lavish praise have been publicly advertised and profusely thrown about on both sides. No expense has been spared; that of the advertisements alone amounting, we are told, to from fifteen to twenty guineas each daily, would be sufficient to deter any person of moderate means or prudence from engaging in such a contest, without mentioning the cost of Parliamentary and other agents, feedings, carriages, and numberless sundries, to which none but those who are anxious to be legislators, have hitherto ventured to expose themselves.

We are sure we speak the opinion of every calm looker-on (and probably that of the candidates themselves by this time), when we say that such a transaction as this election is extremely derogatory to the profession to which we all belong. In the raising up of other pleas for support, the professional character has been lowered, and even entirely forgotten, and a precedent has been set up, which, if followed, would compel medical men henceforth to obtain their places, by the same means as they might a borough from a noisy mob, or from an influential patron. We do not know if Governors of Hospitals equally feel any interest in the selection of their medical officers; but if they do, they may be assured that the permitting or taking part in such elections as these, is the most certain mode that they could adopt to insure the exclusion of all who are most fit to serve them; for no man previously possessed of any good reputation would voluntarily enter upon a contest in which there was any prospect of his being exposed to such annoyances as must have resulted from this.

At the London Hospital the merits of the candidates probably scarcely came into consideration; opposite parties and families had long quarrelled on other general topics, and they made the present choice of a physician the pretext for a trial of their strength. This mode of election often happens; the chief Governors of an hospital, not content with the difficulty which they would find in fairly deciding on the merits of candidates, clear themselves of the trouble by

taking the occasion of an election to settle their own old scores, and the candidate, who, by good luck, is made the stalking-horse of the strongest party is sure of his election, without either his friends or his enemies ever troubling him for his qualifications.

In another place—the Charing Cross Hospital, a fault of another kind has existed. In an Address to the Governors, which the unsuccessful candidate has published, he very plainly, and no doubt truly, charges his defeat to the overwhelming influence of the Director, Dr. Golding. This is one of the most extraordinary documents, connected with elections, which it has ever fallen to our lot to peruse, and clearly demonstrates the utter hopelessness of any candidate succeeding who has not the patronage of the Director. This gentleman not only has a vote himself, but his wife and *four children, under fifteen years of age,* enjoy the same privilege; two of the latter having been invested with their rights on the day of election, and while the ballot was proceeding*!! Under the circumstances detailed by Mr. Palmer, the only wonder is that he obtained so many votes; and if his published statement induces the Governors of Charing Cross Hospital to look into its management, and reform what is amiss, he will have done the institution much service.

At the same time, with all its real or supposed abuses, a monarchy like that which reigns at the Charing Cross is not worse than the republican anarchy which disturbs the London Hospital. The one is at least generally quiet; but it is scarcely possible that any thing but evil should result from the confusion and discordance which arise in the members of headless and conflicting parties on the splitting of every straw, and who totally neglect merit while they are endeavouring to decide their own quarrels.

On the whole, the recent elections, and the various circumstances which have transpired in the course of them, afford but a bad specimen of the mode in which some of our boasted charitable institutions are governed. But the evil affects those engaged more than it does the objects of the charity, who, amidst all the turmoils and uproar of their benefactors, are tranquil and comfortable, often living and feeding in peace on the very quarrels of those whose charity they receive. Probably the very evils of some of these plans are the source of blessings to the patients. We have lately read with much interest a report on the administration of Hospitals in Paris (the direction of which, as most of our readers know, is in the hands of the government); we shall probably consider some of its details on an early occasion, with a view of comparing that system with our own, and of shewing that, though in many respects the English management is open to objection on professional grounds, yet its faults towards the objects of its care are as nothing in comparison with those which are flagrantly prevalent in France.

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* The following is an analytical representation of the poll, as collected from Mr. Palmer's remarks:—

Honorary Governors	34	
Dr. Golding's family and connections	9	
Mr. Hancock's family and connections	9	
Votes received, but admitted to be invalid	3	
Double votes, not appearing as such on the lists	2	
Tradesmen of the Hospital (besides three others who are enumerated as Hon. Governors)	12	
		69
Remaining Subscribing Governors		43
Majority		112
Honorary Governors	6	
Tradesmen	2	
		8
Remaining Subscribing Governors		73
Minority		81
Votes which were disallowed		3

DEATH FROM PUMPING AIR INTO THE EUSTACHIAN TUBE.

An inquest was held on the 26th and 28th ult., before Mr. Wakley, at the Plough, Museum Street, on the body of Joseph Hall, aged 18. He died, while undergoing an operation, on Saturday, the 22d of June, for the relief of deafness, at the house of Dr. Turnbull, in Russell Square. The operation consisted in pumping air through the nostrils into the Eustachian tube; it was repeated four times on the deceased, and on the tube of the instrument being taken from his nostril the fourth time, he fell back in the chair, and never spoke afterwards. Charles Spadbrow, the witness, had had the operation performed on himself four times at a sitting. It produced a swimming in the head, and a portion of the air appeared to escape by the mouth, and the rest down the throat.

Three medical witnesses were examined: Mr. James Reid, Mr. Savage, and Mr. Liston. Their evidence is given, as follows, in the *Times* of July 1st:—

Mr. James Reid deposed, "that he found a thin layer of blood on the left side of the membrane of the brain, and globules of air under it, and in the small veins of the brain; that the left tympanum, or internal ear, had its lining membrane swollen, of red appearance, and there was a slight effusion of blood in it. From the known plethoric habit of the deceased, and from the fact of his having exerted himself at filling the air-pump before he was operated upon, he should say the cause of his death was apoplexy.

"Mr. Savage, lecturer on anatomy to Westminster Hospital, was next examined, and differed from the last witness, and stated that there was extravasated blood on both sides of the membrane, and that the tympanum of the right ear was affected as well as the left. He did not consider that deceased died of apoplexy, but that the injection of cold air through the Eustachian tubes was the primary cause of deceased's death. He knew that the instrument used by Dr. Turnbull would be affected by this opinion, but he did not think the operator in the case at all to blame, as he could not be aware of the nervous susceptibility of the patient.

"Mr. Liston, surgeon to University College Hospital, stated that he was present at the post-mortem examination, at the request of the coroner, and the probability was that the deceased died in a continued fainting fit. He could not easily disconnect the forcible injection of cold air into the tympanum from the effect that followed it. In the region of the tympanum were a number of small nerves connected with the most important one of the body, which, receiving an impression, would cause spasms, or other fatal affections of the heart. Nothing precisely satisfactory could be come to, on account of the decomposed state of the body."

The verdict was, "Accidental death," with a caution to Dr. Turnbull never again to intrust the instrument in unprofessional hands; Mr. Lyon, his assistant, who operated on Hall, not being, we suppose, a medical practitioner.

This case is so exceedingly interesting, that we hope the medical witnesses will publish their opinions in a more trustworthy form. If we understand the evidence, it is clear that Hall's death was the direct effect of the operation. Somebody who professes to cure deafness by catheterizing the Eustachian tube has taken this opportunity of praising himself up to the skies; but we would suggest to him in a quiet, friendly way, that as good wine needs no bush, so a really good operation needs no puffing; that Dr. Kramer, of Berlin, does not owe his reputation to advertisements; and that a man who trusts to these fleeting harbingers of fame is evidently destitute of the *fiduciam magnarum rerum*—the true stamp of genius and reputation.

To the Editor of the Medical Gazette.

Sir,

Two deaths having taken place within a few days, the consequence of operations performed upon the ear, I beg leave to offer a word or two to those paying attention to diseases of the ear.

Firstly.—Under no circumstance ought the tube from the air-condenser to be accurately fitted to the catheter, one extremity of which is placed in the orifice of the Eustachian tube; but, as has been forcibly pointed out by the reviewer in the current number of the British and Foreign Medical Review, p. 95, the "nozzle of the tube of the air-press should be held during the operation so loosely in the dilated end of the catheter that there may

be room for air to regurgitate." By adopting this plan, although I have operated on my own ears many dozens of times, and upon patients many hundreds, I have never even produced emphysema, or any pain in the ear.

Secondly.—The condensed air must not be allowed to rush into the cavity of the tympanum in the form of "*charges*," but in a gentle and continued stream. Any one thinking of the peculiar and powerful effect produced in the ear, and over the whole of the head, during, and for some moments after, the distension of the cavity of the tympanum by a forcible expiration with closed nostrils, can well imagine the result of a "charge" from a powerful air compressor.

Thirdly.—No one ought to undertake the performance of the operation who has not attained considerable dexterity and tact by the passage of instruments on the dead subject.—I am, sir,

Your obedient servant,

J. T.

July 2, 1839.

CLINICAL LECTURES

ON

OSTEITIS OF THE UPPER THIRD OF THE FEMUR, SIMULATING HIP-JOINT DISEASE,

Delivered, during the Session of 1839, *in St. Vincent's Hospital,*

By J. M. Ferrall, Esq. M.R.I.A.

First Surgeon to the Hospital.

Chronic or mild form of osteitis.—Diagnosis.—Other diseases: Osteo-sarcoma; cancer; and fungoid disease.—Analogous changes in lower third of femur.—Osteitis and periostitis confined to trochanter.—Treatment, general and local.

Gentlemen,—The chronic form of this disease, like that to which I have already directed your attention, is liable to be mistaken for morbus coxæ, and therefore deserves your serious consideration; but, as the mode by which they are to be distinguished is, in many respects, similar to that which we have applied to the study of the acute species, it will be unnecessary to consider the symptoms in detail.

The term chronic, as employed in describing the diseases of the osseous system, is not sufficiently precise. A case may be slow in its progress, and yet be accompanied by local and constitutional disturbance, of a nature which, in any other disease, would be thought sufficiently urgent to be termed acute. The situation of the morbid action will greatly influence the character of the phenomena in this respect. Inflammation of the periosteum or surface of a bone, if intense, will pass through its stages with comparative rapidity, and hypertrophy, suppuration, or death of the bone, will be speedily manifested by their accustomed signs. But the same degree of inflammatory action, commencing in the cellular tissue of the central portions of the bone, will display its effects more tardily, though perhaps not less severely as regards the suffering of the individual or the effects on his general frame. Both may be attacks of acute inflammation, the difference in their course being attributable to its situation alone. On the other hand, a case may present itself of so mild a character, that, even in superficial parts of the bone, the steps of the morbid process are slow and productive of little suffering, except as they interfere with the free use of the limb. A better division, perhaps, would be into the severe and the mild forms of the disease; for severe cases may be either rapid or slow in their progress, while the mild cases are uniformly slow.

The mild, or, in the language of the schools, the chronic form of osteitis, is developed in a manner so gradual and insidious, as in a great measure to elude observation in its early stage; at least I suppose this to be generally the case, for I have not seen any instance of the complaint which could not be traced to a period considerably anterior to the time of application for relief. The pain, generally occurring at night, has been so rarely felt, and has been so slight, as to interfere little with the natural rest. The lameness, after some time, becomes greater in proportion to the pain than in the ordinary forms of hip-joint disease, resembling, in this respect, the history of scrofulous enlargement of the ends of bones, so well described by Sir B. Brodie. It is not easy to rely upon the answers elicited from patients by leading questions; but as far as we can do so, it appears that the pain is referred to the bone itself in the early period, and afterwards, when some degree of enlargement of the part and thickening of its periosteum is perceptible, the uneasiness is complained of in one or other of the distant points already named. When matters are in this state, the marks I have already mentioned are those which will generally enable you to diagnose the complaint.

But suppose the diagnosis to be satisfactorily established, may you now venture to pronounce it a case of simple osteitis, or periostitis, of the upper third of the femur?—certainly not. There yet remains a question, which, in the acute form, needs no consideration—namely, the discrimina-

tion of this affection from malignant diseases in the same situation. This distinction is the more difficult because the same absence of constitutional disturbance, as well as local distress, may belong to both in the beginning. In Sir A. Cooper's valuable essay on Exostosis, we find cases of fungoid as well as simple cartilaginous exostosis, in which there was no pain in the commencement, nor until the swelling was discovered. I have myself seen more than one case of osteo-sarcoma of the thigh-bone, where the weight and bulk of the tumor, although of considerable size, were for a long time the principal inconvenience. On the other hand, Baron Boyer states that osteo-sarcoma is always announced by deep-seated pains, and that at length swelling takes place. Notwithstanding his authority, I think you may, from what I have already stated, conclude that many cases occur in which the early stage is unaccompanied by pain. Your diagnosis, therefore, should be guarded, even though the patient's health may be good, and he may suffer little beyond the lameness, which is always present when this portion of the femur is affected.

The upper-third of the femur may be the seat of the various forms of malignant disease to which the osseous system is liable—osteo-sarcoma, cancer, and encephaloid disease. Sir B. Brodie gives a case of large tumor at the hip, in which, on examination after death, the joint proved to be healthy, and the disease was osteo-sarcoma growing from the periosteum of the upper end of the femur. There is a preparation in the pathological museum of the Royal College of Surgeons, presenting a well-marked specimen of cancer, in the form of a large tumor occupying three or four inches of the upper end of the thigh-bone. The centre of this mass exhibits a transverse fracture which occurred without any local injury, and from some slight movement of the patient. It is an instance of what is termed spontaneous fracture of a cancerous bone. Mr. Cusack, who presented the preparation to the College, was so obliging as to inform me that the patient, a woman rather beyond the middle age, had had a cancerous breast amputated several months before, and that the disease had returned, involving the lung of the same side. She was in this hopeless state when the thigh-bone unexpectedly gave way. In the eighth and tenth volumes of the Medico-Chirurgical Transactions you will find ingenious essays, by Mr. Howship, on the minute structure of diseased bones, which will repay you for the perusal. In the latter volume he gives a case from Petit:—"An old woman, with cancer of her breast, was seized with a tumor in her left thigh; the bone was swelled quite round. It was after a time accompanied by sharp shooting pains. The bone broke in turning in bed. Another formed in her arm and clavicle, both of which broke in the same way." On this case Mr. Howship remarks, "Now, although in the above account the disease is termed exostosis, its history seems to be clearly that of spina ventosa."

I cannot help expressing my surprise that a gentleman who has so successfully studied the pathology of bone should consider the history of this case as "clearly that of spina ventosa." This is the more extraordinary, since Mr. Howship describes spina ventosa to be an expansion of the osseous tissue, the cells of which contain only the natural secretions of the part in the early stage, thus clearly separating it from malignant diseases, in which the presence of a new deposit is the essential change. The leading features of Petit's case—cancer of the breast—tumor of the femur—shooting pains—spontaneous fracture—other tumors on the arm and clavicle, and spontaneous fracture of both—cannot fail to suggest the history of carcinoma.

In the third fasciculus of the article "Carcinoma," in Dr. Carswell's splendid work on the elementary forms of disease, you see a fine plate of fungoid disease of the upper third of the femur. The tumor engages the bone internally as well as outside, and presents the lardaceous tissue in the medullary canal; the cartilaginous and osseous growth outside, close to the bone; and further forward, towards the soft parts, the brain-like structure. Dr. Carswell includes the different forms of encephaloid and schirrous growths under the general term carcinoma—an opinion in which you are aware I entirely coincide, as I have on several occasions demonstrated to you the coexistence of these varieties in one and the same tumor. He gives another plate of spontaneous fracture through the upper third of the thigh-bone, which had undergone the cancerous degeneration. In his learned article on the "Pathology of Bone," in the Cyclopædia of Anatomy, Mr. Porter seems to doubt that the osseous tissue is ever affected originally by cancer. If further proof were required, the series of preparations exhibited by Mr. Smith to the Pathological Society of Dublin*, and shewing the cancerous deposit in the interior of almost all the bones in the body of the same individual, would be sufficient to set this matter at rest.

You can easily understand that, in distinguishing these different diseases of the bones from each other, when situated near

* Dublin Journal, March 1839.

the hip-joint, as well as any of them from affections of the joint itself, more difficulty will be experienced than is likely to occur in the neighbourhood of other joints more exposed to view. The knee-joint, one would suppose, could present little obscurity to a careful observer; and yet, I can assure you, that much embarrassment may exist in practice even here. Some years ago I saw, in consultation with Dr. Colles, a young lady affected with true fungoid disease of the lower third of the femur, which for some time had simulated white swelling, until the ham became more than usually full, and a fungous growth was palpable in that space. The limb was amputated, but the disease returned in the stump, and she sank exhausted by protracted suffering and repeated hæmorrhages from the fungous surface. There was an encephaloid tumor in the groin, about the size of a small egg. A section of the bone, which I now show you, displays the medullary canal filled for some distance upwards with lardaceous substance—the shell of the bone softened in several places, and converted into a structure like softened cartilage, and in two or three spots altogether removed by the protrusion outwards of the growth, which assumes more of the fungoid character as it approaches the surface. Not long after this occurrence I saw a young woman labouring under what was considered to be fungoid disease of the lower end of the femur, but which eventually proved to be osteitis, ending in necrosis, with the usual process of reparation. Dr. Colles also saw and took a good deal of interest in this case. If such difficulty is experienced when the two bones composing the articulation are superficial, and easily compared with each other, and with those of the opposite limb, you need not be surprised that mistakes with regard to the deep seated and obscure disease which I have described should have hitherto occurred.

As instances of periostitis of the lower third of the femur, you will remember my directing your attention to the cases of Mary Campbell and Eliza Nochter, in Mary's ward, and Margaret Kelly, in Joseph's ward. In the two former the disease yielded in a great degree to mercury, followed by iodine frictions, leaving, however, some thickening of the bone or its coverings. In Margaret Kelly's case suppuration took place, the abscess was freely opened, and she left the hospital when it had perfectly healed. She has since, as you know, returned after a lapse of three months, with another large collection of matter on the outside of the limb, and has again returned home, the part being perfectly healed. On neither occasion could the probe reach the bone, on account of the circuitous route which the matter took to reach the surface; and as both openings healed, it is still doubtful whether the solid swelling which remains is formed by the necrotic process or periosteal exostosis.

Inflammation, generally the result of local injury, may attack the great trochanter alone, and give rise to many of the symptoms of morbus coxæ. The lameness is, however, not so great, nor is there the same disposition to adopt the flexed position. The pain is more localized, in general; but I have known the pain complained of much lower down the outside of the thigh. The trochanter in these cases is enlarged, its periosteum being also very much thickened, and its condition finally becomes either that of chronic exostosis or necrosis, with partial separation of the bony prominence. An instance of the latter you saw not long ago, in an out-patient, a young peasant, who fell in wrestling. The case looked very like hip-disease at first, for the nates were flattened, and the limb was much wasted, but the joint was found on examination to be perfectly free from disease. There had been an exfoliation in this case, but the fistulous opening was then healed.

About three years ago a case of this kind, in its early stage, was treated in Patrick's ward. The part had been bruised against a wall by riding a restive horse. Under the external use of tincture of iodine, after leeching and cold applications, the swelling nearly disappeared, and no trace of lameness remained. In the progress of such cases a question may arise, whether we should interfere to remove a portion of loose or carious bone. If we do so, by simply dilating the fistulous opening, and seizing the fragment with the forceps, we should do so in order to shorten the period of lameness. But if a more extensive incision be required, I cannot advise you to incur the responsibility, unless the patient shares it freely with you by wishing for the operation. Le Dran gives a case of a young man on whom this operation was performed in order to remove a portion of the great trochanter, which was found to be carious. The event was unfortunate, for erysipelas, fever, and rigors, were the consequence, and the patient died on the seventh day.

The treatment of the chronic or mild form of osteitis of the upper third of the femur, will, in many respects, be the same as that required by the acute form, at a period when the violence of the symptoms has abated, but where there is still reason to suppose that a certain degree of increased action continues. Local blood-

letting, according to the constitution and vigour of the patient, should be practised, and evaporating lotions or fomentations according to their effects constantly employed. I have known the hip-bath of great service after leeching in these cases, and, when moderate adroitness is to be found in the attendants, I have never seen any objection to its use on grounds of disturbance to the limb. Passive motion, as I said before, is not complained of; no movement is communicated which calls for resistence on the part of the muscles situated about or attached to the affected part.

If mercury be prescribed in the mild form, it must be on principles quite different from those which apply to the acute case. It should be to improve the secretions, or, at most, to produce that mild impression on the system, so conducive to the removal of chronic inflammation, and which, for want of better, has obtained the name of its alterative action. For this purpose you may give two grains of blue pill with two of prepared chalk, every night, and in the morning a few grains of rhubarb, or an infusion of the root with gentian or cascarilla, and small doses of sulphate of magnesia or potass, as the case may suggest. This plan may be continued for some days, until the secretions, alvine and renal, are satisfactory, and the tongue nearly natural in appearance.

It will now be advisable to adopt means calculated to promote absorption, and lessen the bulk of the swelling. We possess in the different preparations of iodine, remedies peculiarly adapted for our purpose, and signally useful in affections of the fibrous and osseous tissues. The combinations of iodine and mercury, as you have seen them employed, are sometimes very active; but you should remember that the mercurial action too often predominates. On the whole, the hydriodate of potass or iodide of potassium is the preparation which I can most safely recommend you to employ. I have already remarked upon the mode of exhibiting this medicine.

The local application of iodine deserves a high place in our confidence in treating the mild forms of osteitis and periostitis. If counter-irritation be desirable, you can direct a blister to produce vesication; and having removed the cuticle, dress the surface with the iodide of lead ointment of the strength used in the hospital, two scruples or a drachm to an ounce of spermaceti ointment. When the parts will bear friction, iodine can, in this way, be made a very efficient agent, and for this purpose fresh lard is a better medium than spermaceti ointment. I find the skin bears the ointment composed of iodide of potassium and iodide of lead with lard very well; the addition of a little tincture of opium is occasionally useful. You have witnessed many examples of the efficacy of this application in dispersing thickenings of the tissues already named. Mr. Cæsar Hawkins relates two cases of fibrous tumor growing from the lower end of the femur, in which leeching and iodine ointment succeeded in checking the progress of the complaint. I need not remind you that the efficacy of your remedies will be increased by those attentions to the general health, in which careful diet, air, and passive exercise, are included. You can accomplish nothing, in slow diseases, without due regard to these important matters.

I have now, gentlemen, described the acute and mild forms of osteitis of the upper third of the femur, and alluded briefly to periostitis of that part, as well as of the great trochanter. I have also related the modes of investigating these diseases, with a view to distinguish them from disease of the hip-joint, which they so closely resemble, and with which I have no doubt they have often been confounded. I have finally glanced at other organic changes in the same situation, lest your attention should be too exclusively directed to a single view of the probable source of swelling of the bone. I shall not fail to avail myself of the opportunities afforded by this valuable hospital, for pursuing the study of these important diseases, and shall willingly share with you the facts and experience supplied by our clinical researches.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

Dr. Graves in the Chair.

1. *Perforating ulcer of the stomach.*—Dr. Hutton exhibited a recent specimen of a large ulcer situated at the lesser curvature of the stomach; it had penetrated the peritoneal covering; the coronary artery ran close along the edge of the aperture. This ulcer was obviously chronic.

The preparation was taken from a body of a young female, to all appearance healthy; seven days previous to her death she received an extensive burn of the face, neck, and shoulder; upon the evening of the sixth day after the receipt of the injury she was seized with vomiting, and on the morning of the seventh day abdominal pain set in, followed by collapse. She died of peritonitis on the next day. (Museum, Richmond Hospital.)

2. *Ileo-cæcal abscess, with perforation of the intestine and groin.*—Mr. Ferrall presented the recent parts in this case. The patient, a young girl, was admitted into the Meath Hospital, with tumor in the right iliac region, about fourteen days after the first attack; suppuration of the tumor had then occurred; the bursting of the abscess was soon indicated by a copious discharge of purulent matter from the bowels; soon after this another tumor formed in the upper part of the thigh, separated from the former by a deep sulcus corresponding to Poupart's ligament, below which an opening occurred, through which pus and ultimately fæcal matter was discharged. Mr. Ferrall exhibited the mode of communication between the abscess and opening in the groin; the fistula took a direction at first downwards, and afterwards upwards and inwards, the omentum adhered to the parietes of the abdomen and cæcum; the communication from the abscess into the intestine was by two small openings separated by a slip of mucous membrane, and resembling the appearance often seen in the integuments when an abscess opens by a slough.

An important peculiarity in this case was the mode in which the matter had made its way externally—namely, by perforation of the iliac fascia, and descent on the outside of the femoral vessels.

Mr. Ferrall also shewed, that in this case the communication with the intestine did not, as Dr. Burne supposes, take place through the appendix vermiformis, the appendix being free from disease. The perforation had arisen from the abscess into the intestine, being the third form of the disease formerly described by Mr. Ferrall in the Edinburgh Journal. He owed the specimen to the kindness of Dr. Stokes. (Museum, St. Vincent's Hospital.)

3. *Incipient Cirrhosis of the Liver, with Chronic Gastritis and Congestion of the Mucous Membrane of the Intestines.*—Mr. Carmichael exhibited the recent parts in this case. The viscera were those of an habitual drunkard; the liver was but slightly diminished in size; the left lobe presented a more marked type than the right, and had a mammillated appearance, which was scarcely to be detected in the right portion of the organ; the spleen was much enlarged; the mucous membrane of the stomach was thickened and of a slate colour, and that of the small intestines deeply congested; the lungs presented a great number of tubercles in different stages. (Museum, Richmond Hospital.)

This patient died with ascites, for which he had been twice tapped. Mr. Carmichael considered that in this case, and others of the same description, the primary lesion was inflammation of the gastric mucous membrane, and that the lungs were subsequently tuberculated.

4 *Extensive fracture of the cranium, in consequence of a fall during an epileptic paroxysm.*—Mr. Cusack exhibited a portion of the cranium of an individual, who, in a paroxysm of epilepsy, fell with violence on a stone floor. The skull was extremely thin; the right frontal bone was fractured and depressed, and the internal table extensively separated from the external. About two ounces of blood were effused from the middle meningeal artery, which had been torn across. The arachnoid was vascular, and some effusion existed beneath it. Subsequent to the fall the patient recovered his senses, and remained free from any attack until the next day, when the convulsion returned, and was repeated several times previous to his death. (Museum, Park Street.)

5. *Formation of numerous cysts in the kidneys, with extensive depositions of phosphate of lime.*—Dr. Corrigan presented the kidneys of an individual who had long laboured under symptoms of irritation of the bladder and urethra; he had curvature of the spine of long standing. On dissection the urethra, prostate, and bladder, were found healthy; one kidney was converted into a number of large cysts, while the other presented the same disposition, but with this difference, that the loculi contained great quantities of a substance resembling putty, and composed of phosphate and carbonate of lime, with a slight trace of albumen. In the course of the disease the patient laboured under hæmorrhage from the bladder. (Museum, Digges Street.)—*Dublin Journal of Medical Science.*

CONGENITAL ABSENCE OF THE LIVER.

This rare malformation was found, by Dr. Kieselbach, in a human embryo, which was, in all other respects, well formed. The umbilical vein passed through the umbilicus to the part which the liver usually occupies, without dividing; there the portal vein received it, and divided into two branches, one of which passed to the vena cava, but the other divided into innumerable ramifying branches, which terminated blindly. There were no traces of hepatic veins. One cannot, therefore, regard the flocculent division of the branches of the umbilical vein as residue of a liver which had once existed, and at a later period had, from some cause, wasted. The case is probably to be regarded as one of those rare arrests of development

in which one of the most important organs is not formed, but in which a vascular growth occupies its place.—*Froriep's Neue Notizen*, No. 159.

COLLEGE OF SURGEONS.

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS.

May 1839.

W. Stone, Arundel.—H. J. Paine, Canterbury.—J. Howe, Stockport.—H. P. Ree, Ware, Herts.—W. J. Nicholas, St. Thomas's Street.—T. C. Hutchinson, York.—T. Taylor, Barbadoes.—W. E. Creasy, Eden Bridge, Kent.—G. Woodcock, R. N.—G. W. Tailer, Woodbridge.—F. Biggs, Tipperary.—H. Featherstonhaugh, Newcastle-upon-Tyne.—J. Bathew, Manchester.—J. C. Little, Bedford.—W. Potts, South Audley Street.—B. W. Holt, Abingdon Street.—T. W. Grant, Cork.—J. Peterkin, Cleveland Street, Fitzroy Square.—R. N. Robson, Durham.—R. Clarke, Lyle, Antrim.—D. Bolton, Birmingham.—S. G. Sloman, Exeter.—W. Love Street, Exeter.—S. L. Turner, Newcastle, Staffordshire.—W. Evans, Bleadon.—R. S. Bowker, Bullwell, Nottinghamshire.—J. E. Mall, West Bromwich.—W. Martyn, St. Columb.—L. Newton, Sawtry.—H. Brickwell, Sawbridgeworth.—M. W. Murphy, Cork.—W. C. Townsend, Charleville.—J. C. Walsh, Meath.—E. Chabot, London.—W. Reynolds, New Orleans.—N. C. Latham, Wigan.—R. Gurney, Penzance.—W. Scott, Enniskillen.—A. Anderson, Logie, Buchan.—A. Robb, Cruden, Aberdeenshire.—W. Shurlock, Petersfield.—J. E. Jenkins, Gosport.—J. Robinson, Monaghan.—W. Christopher, Dartmouth.—H. Jebb, Dublin.—S. Brooke, Margate.—Harry Dove, Ipswich.—Henry Wells, London.—R. Taylor, Wigan.—W. Woods, Bangor, Down.—J. Kearney, Newbridge, Wicklow.—H. Montford, Dublin.—Francis Dill, Donoughmore.—W. H. Miller, Dartmouth.—R. Hindle, Blackburn.—W. H. Lowe, Chester.—A. Burstall, Hull.—F. J. Lowes, Hounslow.—George Brown, Coln Engain, Essex.—W. H. May, Leicester.—J. Bredall, Chelsea.—F. S. Garlick, Halifax, Yorkshire.—W. C. Hugman, Hornsey.—H. Andrew, Truro.—W. Goodridge, Sturminster, Newton.—J. S. Snook, Colyton.—J. H. Billing, Sponden, Derbyshire.—H. H. Monk, R. N.—E. Welby, Farndon.—W. R. Dimock, Uppingham.—Christopher L. Malet, Cork.—J. Bull, Cork.—W. C. Beattie, Manchester.—W. D. Parsons, Shaldon, Devon.—F. Haward, Halesworth.—J. Benning, Barnard Castle.—R. B. Wright, Wells, Norfolk.—D. Hughes, Denbigh.—J. C. Millingen, St. John Street Road.—J. Doughty, Kidderminster.—E. Wing, Melton Mowbray.—E. M. Davies, Galway.—W. Coates, Bradford.—J. Highett, Heytesbury.—G. F. Brady, Lifford, Donnegal.—J. D. Campbell, A.—J. H. Baylis, Lambeth.—T. Galloway, Preston, Lancashire.—R. S. Martin, Overbury.—H. Calver, Cambridge.—J. M. E. Roche, St. James's Street.—T. Marsh, Ashton, Macclesfield.—T. H. Wakeman, Worcester.—J. Gilchrist, Aberdeen.—W. Smith, Louth.—W. A. Caryl, Thorpe.—W. A. Tompson, Blackmore Street, Drury Lane.—T. A. Essery, Swansea.—C. P. Cullerne, London.—R. H. Anderson, Kilkenny.—T. O'Meara, Carlow.—T. A. Furness, Newcastle-upon-Tyne.—C. Maling, Westmoreland.—J. Carew, Clonmell.—J. Smith, New Orleans.—A. W. Crozier, Cape of Good Hope.—J. Heatley, Preston.—S. H. Gaisford, London.—G. W. Caines, St. Kitts, W. I.—H. Dendy.—A. H. Hassall, Bexley, Kent.—C. J. Murray, Dublin.—F. L. Pulling, Dean Street, Southwark.—C. A. Elderton, Devonport.—O. King, Corsham.—R. Parson, Godalming.—J. Hodgson, Halifax, Yorkshire.—J. Ashton, Manchester.—S. B. Cowan, Bristol.—T. J. Holmes, Lyme Regis.—H. Willan, Ledbury.—J. H. Jones.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, July 4, 1839.

Wm. Martyn, St. Colomb, Cornwall.—Wm. C. Hugman, Hornsey, Middlesex.—Thos. Wingfield Hall, South Wingfield Park, Derbyshire.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *July* 2, 1839.

Abscess	4	Hooping Cough	2
Age and Debility	13	Inflammation	4
Asthma	3	Bowels & Stomach	3
Childbirth	2	Brain	4
Consumption	31	Lungs and Pleura	3
Convulsions	7	Measles	14
Dentition	3	Small-pox	1
Dropsy	4	Sore Throat and Quinsey	1
Dropsy in the Brain	1	Stricture	1
Dropsy in the Chest	1	Tumor	1
Erysipelas	1	Unknown Causes	45
Fever	5		
Fever, Scarlet	12	Casualties	3
Fever, Typhus	1		

Decrease of Burials, as compared with the preceding week . . . 122

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

June.	THERMOMETER.		BAROMETER.	
Thursday . 20	from 48	to 75	30·05	to 29·89
Friday . . 21	58	74	29·73	29·75
Saturday . 22	56	65	29·64	29·38
Sunday . . 23	55	65	29·35	29·54
Monday . . 24	54	68	29·71	29·78
Tuesday . . 25	56	73	29 87	29·83
Wednesday 26	54	67	29·56	29·48

Prevailing wind, S.W.

Generally clear, except the 22d, 23d, and 26th, when rain fell.

A violent storm of thunder and lightning, accompanied with heavy rain, during the morning and afternoon of the 26th.

Rain fallen, ·3 of an inch.

Thursday . 27	from 50	to 67	29·75	to 29·74
Friday . . 28	51	60	29·62	29·63
Saturday . 29	48	60	29 82	29·79
Sunday . . 30	42	55	30 03	30·14
July.				
Monday . . 1	41	66	30·17	30·18
Tuesday . 2	46	67	30·18	30·20
Wednesday 3	41	70	30·20	30·17

Prevailing wind, N.W.

Except the 27th ult., 1st and 3d inst., generally cloudy; rain on the 28th, and following day.

Rain fallen, 675· of an inch.

CHARLES HENRY ADAMS.

ERRATA.—In last No. p. 506, c. 1, lines 37 and 41, *read* "Dactylius," *for*, &c.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JULY 13, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Pathology.—We have in a former lecture given a tabular view of the composition of the different principles, morbid or natural, which, either by their appearance or increased quantity, produce morbid conditions of the urine. We must now, therefore, refer to that table, and we shall see that oxalic acid consists essentially of two atoms of carbon and three of oxygen. Now sugar is very readily converted into oxalic acid by the action of nitric acid aided by heat. We have already stated that Dr. Prout considered diseases, or at least certain diseases, as arising or intimately connected with an imperfect development of the staminal principles, or from the derangements to which these principles are liable. You may also remember these principles were three—the *saccharine*, the *oleaginous*, and the *albuminous*. Dr. Prout considers the oxalic diathesis as depending on the saccharine principle. The acidifying power of the kidneys appears to be in inordinate activity, and hence the formation of oxalic acid. From this he asserts the formation of oxalate of lime may be traced, and its appearance as urinary calculi. Nor is the mulberry calculus the only form of morbid condition developed under such circumstances. With the production of oxalic acid the skin becomes affected, and presents morbid appearances of various characters. "One very important class of affections," says Prout, "frequently connected with the formation of oxalic acid, are certain skin diseases; these, from slight scaly crusts down through every intermediate stage to boil, carbuncle, and even malignant forms of disease, as fungus hæmatodes, often accompanying a tendency to saccharine diseases, either in the shape of sugar, or oxalic acid, or more frequently both*." I have already pointed out the connection between certain urinary diseases, as diabetes, excess of urea, &c., and certain affections of the skin, of the leprous and impetiginous characters, and this has also been observed to occur in those disposed to the oxalic diathesis. "When, in particular, the oxalic diathesis prevails, it is rare not to find the skin more or less affected, either in the shape of scaly spots on the anus or legs; or troublesome boils, which, in advanced life, and more inveterate forms of the affection, sometimes assume the shape of carbuncles. I have several times seen impetiginous affections accompanied by a temporary saccharine condition of the urine, and after this has disappeared, succeeded by malignant disease of the bladder, of the kind usually termed fungus hæmatodes. Even in those cases in which there is not actual disease, when oxalic acid is generated in the system to much extent, the skin often assumes a peculiar character difficult to describe, and a livid tint mixed more or less with green or yellow, and the venous blood is often of an unusually dark colour†."

Calculi of oxalate of lime are generally rough and tuberculated, and consequently we can readily understand, how, even by their mechanical action, they produce that pain and irritation, and also the bloody

* Gulstonian Lectures, Med. Gaz., vol. viii. p. 386.

† Ibid.

urine so constantly voided during the formation and growth of mulberry calculi. When large calculi of this description are retained in the kidneys, disorganization of these organs is very apt to be produced; and, as has been observed by Prout, the blood voided with the urine is generally of a very dark or greenish colour. Upon the whole, we may consider the oxalate of lime a somewhat more obscure form of disease, and one the treatment of which it is not easy to base upon strictly rational principles.

Treatment.—The treatment of this diathesis is attended with two very great difficulties:—first, that of determining the existence of the diathesis; secondly, to devise the appropriate remedies. The absence of all urinary sediments obliges us to depend upon evidence at best but equivocal, or at least of little or no service to those who are not practically acquainted with the sensible, mechanical, and chemical properties of the urine, both in health and disease. If, then, we find the urine presenting a specific gravity of about 1·020, having an acidulous reaction, the citrine tint already mentioned, without any characteristics of the lithic acid diathesis, with the prevalence of the associates already enumerated, should we not be justified in looking upon the disease as depending upon the oxalic diathesis? Grant it. Are we acquainted sufficiently with the pathology of this diathesis to see clearly the modes of counteracting it? Much as has been effected, we still are to a great extent in the dark upon this subject. It has been already shewn, and that also on the authority of Prout, that the analogies existing between the lithic acid and the oxalic diathesis, were such as to prove them of the same general nature, and therefore that the principles of treatment should be similar. But this can only be understood as applicable to the general or constitutional treatment, but, in reference to particular methods, would be found highly prejudicial. Thus we may adopt blood-letting (general and local), purgatives, and other antiphlogistics, to subdue and correct any inflammatory tendency. But when we come to consider the conditions of the urine, we find that the analogies in the therapeutics here cease. We found, for instance, that the urine contained a large quantity of earthy salts in solution. Thus, in the instance mentioned by Dr. Prout, ammonia precipitated the mixed or fusible phosphates very copiously, and oxalate of ammonia gave a very copious precipitate of oxalate of lime, and probably of oxalate of magnesia *. In the lithic acid diathesis we give the alkalies freely, but you must be satisfied that an alkaline or even neutral condition of the urine would be attended with the precipitation of the fusible phosphates, under the circumstances of such a chemical constitution as that which prevails in the oxalate of lime diathesis. Nor would such a condition tend in the least to prevent the separation of oxalate of lime; on the contrary, it would rather favour it. Here is a solution of oxalate of lime effected by means of an acid. Let us suppose, for a moment, this to be the condition of the urine. Observe, the moment we render it neutral, much less alkaline, by means of ammonia, potass, or indeed any alkali, oxalate of lime immediately precipitates. Now this is what would take place in the urine; and still further the fusible phosphates would be precipitated, than which there is a no more terrible or formidable condition, for it seldom prevails long or to any extent without serious destruction of the coats of the bladder. Here, then, is a very marked distinction between the treatment of lithic acid and the oxalic acid diathesis.

We now, therefore, come to inquire, is there any means of rendering the oxalate of lime soluble, and thus preventing its separation from the urine? Some of the acids, as you have already seen, dissolve the oxalate of lime; such are, for instance, the hydrochloric and the nitric. In this tube I have oxalate of lime; if I add some hydrochloric acid—as you see—the first two or three drops do not exert any solvent effect; but if I add a drop or two more—as you see—the oxalate of lime is dissolved. Nor yet is this solution too strongly impregnated with acid to prove injurious to the urinary organs. Nitric acid is a still more powerful and effectual solvent of the oxalate of lime; for you see a single drop dissolves the oxalate of lime, which required five or six of hydrochloric acid. Therefore it would appear that one or other of these acids present a prospect of the greatest success that can attend the use of remedies, but which is preferable I hardly know; but, from my own experience, I should be inclined to prefer the nitric: but what I think still preferable is a combination of the two, the two nitro-muriatic, as it is called.

It will be observed, that so far the use of the acid is inferred to be to keep the oxalate of lime in solution, and thus have it expelled with the urine; and that this takes place, I have had one opportunity of verifying. I have already stated that oxalate of lime is not generally discoverable

* I have satisfied myself that oxalate of magnesia is frequently precipitated under such circumstances. But as they are similarly affected by reagents, and soluble in the same solvents, the circumstance, in a practical point of view, is not of much moment.

in the urine, even when this diathesis is going on; but some years since, a case presented to me, in which there could be little doubt of the oxalate of lime diathesis going on, from the very marked and decided symptoms of this diathesis being present. The patient was at first treated with hydrochloric acid, and afterwards took the nitro-muriatic acid; and during which, I examined the urine two or three times, and discovered traces of oxalate of lime. That is the precipitate by an alkali partially dissolved in acetic acid, leaving a neutral residue insoluble in the acid, but which, on being heated by the blow-pipe, became alkaline, and when moderately heated left a residue which effervesced with an acid. These are characters which distinguish oxalate of lime.

But even this practice requires very close attention and great care; for a perseverance in the use of acids, if carried to too great an extent, will cause the generation and precipitation of lithic acid, and this probably would prove as bad as the evil we wish to avoid. Dr. Prout, indeed, has proposed a principle of treatment founded on this very fact. "Besides," he says, "the principles of treatment abovementioned, I have lately adopted another principle, very different, indeed, from these, but which I think I have seen of considerable utility in two or three instances. This has been to endeavour to change the diathesis from that of the oxalate of lime to the lithic acid. It struck me, that as these two diatheses never appear to exist at the same time, if the former could be converted into the latter, that a very obscure disease would thus at least be exchanged for one of a more open character. The muriatic acid was chosen for this purpose (though in some instances it is probable the vegetable acids would answer as well*,) and its use was continued till the lithic acid began to be deposited plentifully on the cooling of the urine. The muriatic acid is sometimes apt at first to derange the stomach; but notwithstanding this, in the few instances in which I have had an opportunity of adopting this plan, it has been always ultimately followed with very considerable relief to the patient's sufferings, both constitutional and local. Indeed, there are strong grounds for believing, from the analogy between the two diatheses, that an artificial expulsion of lithic acid from the system, under the above circumstances, is calculated, at a certain period of life, to remove the tendency to the formation of oxalic acid, in the same way and on the same principles, that it was formerly stated to remove the tendency to the secretion of lithic acid*."

The changing the operations of the system so far that lithic, the natural acid, be generated in the place of the oxalic, a morbid and unnatural one, was a very happy idea, and certainly one which has put medicine in possession of a very powerful means of assistance. But it must be borne in mind, that the practice is not wholly without risk, and that it cannot be attempted without care and judgment. First, if a determined lithic acid diathesis be induced, from the peculiar constitution of the urine, the treatment required would be apt to be attended with the precipitation of the fusible phosphates, for even although the lithic acid diathesis may be induced, yet the quantity, indeed unnatural superabundance of the earthy salts, is not materially diminished. Indeed, Dr. Prout himself cautions us as to the adoption of this plan:—"It need scarcely," he says, "be mentioned, that this plan of treatment requires some judgment and care in its management, and that it should hardly in any case be adopted when disorganization or calculus is already supposed to exist in the kidney or bladder, or, perhaps, in very young or very old subjects†."

At the same time that we adopt or modify the plans just now pointed out, the use of sedatives will often prove highly efficacious; and in this case, as in the lithic acid, opium and colchicum will be found of essential service. Opium has been already noticed as promoting the secretion of lithic acid, and colchicum is by many supposed to produce a similar effect. With these means we must attend to the general state of the health, and especially of the digestive functions. Local treatment, such as cupping the loins, sinapisms, issues, and setons on each side of the lumbar vertebræ, and over the region of the kidneys, should not be lost sight of.

Dr. Prout, in the Gustonian Lectures, attributes the generation of oxalic acid to the acidification of the saccharine radical. Hence we might infer, from what he states, that oxalic acid would be found in the blood, and he points out several singular coincidences which would seem to justify such an expectation; but I am not aware that free oxalic acid, or even combined, has been found in the blood, by any other than Lecanu. In certain states of

* It may, perhaps, in some measure be questioned how far the vegetable or destructible acids would answer. Certainly, in a vigorous state of the digestive functions, these acids would be decomposed, and their elements differently appropriated than to the generation of lithic acid in the urine. I am not quite certain as to how far the phosphoric acid might be advantageously substituted, but I believe that a solution of chlorine will very often answer the purpose, and effects very salutary changes.

* On Diabetes, &c., pp. 161-162.
† Ibid. p. 162.

disease, however, it seems very probable that this, as well as many other morbid principles, would be found to exist in the blood. Consequently the great therapeutical indication would be to prevent this morbid generation; but we are not sufficiently acquainted with the nature or mode of this production to entertain the subject here *.

Cystic oxide diathesis.—You have already been made acquainted with the principal properties of the cystic oxide. Comparatively speaking, opportunities of examining the circumstances connected with this principle occurs so rarely, that but little is known respecting it. I have already stated in general terms the history of this substance. The distinguishing chemical characters at least are very well ascertained; but in a pathological and therapeutical point of view this advances us but a very little way in the history of the disease. I am not aware that any one, with the exception of Dr. Prout, has given any history of the physical properties of the urine. Dr. Wollaston was the first to perceive the peculiar properties of this substance, but he has given us no perfect history of the cases, truly because he had not the opportunity, as he merely had the calculi for analysis without knowing any thing of the history. Dr. Marcet is also in the same predicament; and although he saw something of the cases, yet he had no opportunity of furnishing any thing like a perfect history. I here again present you with a specimen of the cystic oxide that you may again look at its sensible characters.

Dr. Wollaston was the first to describe the characters of cystic oxide. He states, in external appearance they more closely resemble the triple phosphate of ammonia and magnesia, but with this difference, they are more close and compact, nor do they consist of distinct laminæ, but appear as one mass, confusedly crystallized throughout its substance. It has a yellowish semi-transparency*, and a peculiar glistening lustre, like that of a body having a high refractive density. Urged before the blow-pipe it gives off a peculiar fœtid odour, very different from that exhaled from the lithic acid under the same circumstances, nor at any period resembling the smell of Prussic acid. But perhaps its more distinguishing characters are those already detailed; its solubility, with but few exceptions, in the acids and also in the alkalies. The general symptoms which prevail in this disease are no way peculiar, and therefore require no enumeration.

Diagnosis.—There will be very little difficulty in determining the presence of the cystic oxide diathesis, for no one of the commonest observation can be mistaken upon this point. The properties of the urine are so peculiar and characteristic that, independent of any sediment, they would prove quite sufficient to decide the nature of the case. Of the cases which have been specially noted, we have the following summary. The first calculus, and from which Dr. Wollaston, its discoverer, determined its properties, was taken from a boy five years of age. It was covered with a loose coating of the phosphate of lime. This patient died afterwards, in consequence of another stone of lithic acid having formed. This second calculus appeared as if something more soluble had been removed from its centre†. A second was likewise described by Dr. Wollaston. It was taken from a man, aged 36; but there are no further particulars of this case. The calculus is preserved in the museum of Guy's Hospital. Dr. Henry next recognised two specimens in his collection, but professed himself unacquainted with the history of either‡.

Dr. Marcet was the next to describe this calculus. The first case which presented was that of a gentleman, about 30 years of age. He was first attacked with symptoms of stone about twelve years before, and was operated on about two years after; and the calculus given to Dr. Marcet for examination very closely resembled, in external appearance, the specimen delineated in figs. 1 and 2 of this plate viii. of his work. On examination it proved to be cystic oxide. This gentleman passed several small calculi by the urethra both before and after the operation, which, on examination, were found to consist of this substance. "But the most remarkable circumstance of his narrative," says

* I have above stated, that chlorine—and what, perhaps, is equivalent to it, nitro-muriatic acid—is sometimes very beneficial. I have some reason to believe that chlorine, under certain circumstances, decomposes the oxalic acid, abstracting the hydrogen, and setting the oxygen and carbon free. Chlorine will certainly decompose water, more especially if aided by light; for if we examine a solution of chlorine after some time, with the free chlorine, hydrochloric acid will also be found in solution. Oxalic acid cannot exist without being hydrated; and if the chlorine will decompound this water, it will as effectually destroy oxalic acid as the sulphuric which abstracts it. Some experiments which I have but very recently undertaken, but which I have not completed, have induced me to throw out this hint, that others, who have the opportunity, may put the suggestion to the proof. If the above be well founded, chlorine perhaps would not only prove beneficial, by decompounding oxalic acid already formed, but probably would prevent its generation altogether.

* The specimen in my possession is rather whitish, a dull white.

† Philosophical Transactions, 1810, p. 223.

‡ Med.-Chir. Trans, vol. x. p. 140; Marcet, p. 89, 2d edit.

Marcet, "was, that the evacuation of these stones had invariably been preceded by pain in the left kidney, shooting down the ureters, and, as he thought, following the course of the stone; but he never was subject to pain at the extremity of the penis, or at the neck of the bladder*." After the operation he was not troubled with symptoms of stone, as they were generally voided immediately on their descent from the kidneys to the bladder. This gentleman had been subject to hæmorrhage, which then ceased; but calculous matter, in small quantities, continued to be voided much more frequently than before, even about once a month. He was subject to be bilious or dyspeptic, but was not troubled with acidity. Dr. Marcet considers this, therefore, a distinct instance of the renal origin of this calculus.

The next instance is also described by Dr. Marcet. This gentleman was about 30 years of age, and died in London with symptoms of stone in the kidneys. On opening the body a number of calculi were found in the kidneys, and, upon examination, proved to be pure cystic oxide. One of them had moulded itself in the enlarged infundibulum, in which it was found, so as to afford by its shape a permanent proof of its origin. This calculus is represented in plate viii. fig. 3, of his work. An elder brother of this last patient had also died with symptoms of calculi, and Dr. Marcet obtained the particulars. He was between thirty-six and forty years of age, had occasionally passed small stones from the bladder with more or less inconvenience, and suffered from disease of the prostate. At the time of his death he felt no particular uneasiness in the bladder, nor was there any obvious deficiency of urine. He was suddenly seized with febrile delirium, as if from some great irritating cause, but without particular pain. Under this state his vital powers sunk rapidly, and he died in a few days.

On dissection one of the kidneys was found reduced to the state of a small cyst or bag, without any distinct remains of organic structure by which the kidney could have been recognised, except its being attached to the ureter. The other kidney was enlarged, and contained several cystic oxide calculi, one of which, as in the instance of the brother, assumed the form of the cavity of the kidney from which it was taken. No calculus found in the bladder. The prostate very much enlarged, containing several calculi, one of which, examined by Dr. Marcet, proved of the usual composition—phosphate of lime. A third brother died in Ireland with symptoms of calculi, but their nature could not be ascertained.

Mr. Brande mentions two instances. In one the calculus was voided by a labourer; but there are no particulars. In the other, several cystic oxide calculi, varying in size from that of a pin's head to a pea, had been voided at different times, for a period of thirty years, by a gentleman, aged 40. This individual had been subject, from about 6 or 7 years of age, to pain in the loins, not confined to any particular spot, and seldom of any acuteness, so as to prevent his usual occupations, which obliged him to lead rather a sedentary life. His usual state of health was good, his habits very regular, his diet ordinary and plain. He had used soda water, magnesia, and the alkalies, without any advantage. The further history of this case is unknown*.

In the histories which have just been given, two things of some moment appear—1st, that this calculus is always of renal origin, and, contrary to what its name implies, never originates in the bladder; 2d, that most of the specimens are nearly of perfect purity, and very free from any impurity or other intermixture. "I have only further to observe," says Dr. Marcet, "on this substance, that all the specimens I have seen, from five different persons, have been remarkably pure, and free from any other ingredients†. It would appear, therefore, that the cystic oxide diathesis (if I may be allowed the expression) has a more exclusive tendency, in regard to the formation of other kinds of calculi, than the other species of urinary concretions‡." Sometimes, however, these calculi are studded here and there with crystals of the triple phosphate, but receive no distinct coating or stratification of other substances.

Such is a summary of what was known concerning the history of cystic oxide till the publication of Dr. Prout's work. In this no account appears to have been taken of the peculiarities of the urine, from which alone, independently of any other circumstances, the existence of the cystic oxide diathesis may be with certainty pronounced. Opportunities, however, of examining the urine of persons labouring under this disease have presented to both Dr. Prout and myself, and I shall now proceed to lay the particulars before you.

* Ibid. pp. 90, 91.

* Journal of Royal Institution, vol. viii. p. 71.

† One of Dr. Wollaston's specimens had a loose coating of phosphate of lime; but this might have been accidental, and does not invalidate the general inference.

‡ On Calculous Disorders, pp. 95, 96.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(As delivered in his Lectures at Sydenham College School of Medicine.)

[Continued from p. 524.]

VI.—INJURIES OF THE HEAD.—GENERAL CONCLUSIONS ON THEIR SYMPTOMS, EFFECTS, AND TREATMENT.

Resumé of the results and facts brought forward in these lectures, and the principles they establish—1. *As connected with the nature of the various injuries.*—2. *In reference to their symptoms and effects.*—3. *As regards their treatment and ultimate results.*

The symptoms and effects of lesion are doubtless dependent much upon, 1st, the extent of lesion; secondly, the particular site. I have seen many cases of wonderful recovery from lesion, of which I will relate an instance, stating my conviction, that of all the injuries to the brain, threatening life, that which leads to least disturbance is lesion.

—— Woodhouse, a trumpeter, while sounding the advance, received a musket-shot. The ball entered at the right temple, near to the outer angle of the eye, and, passing through the back of the orbit, destroyed the eye; and in its course to the other temple, nearly diagonally, it raised the frontal bone many lines from the transverse suture. It made its exit a little higher on the left side, and, from both wounds, brain passed out for several days. The deformity of the face at and above the transverse suture was considerable, from the displacement. He recovered shortly from the immediate and stunning effects of concussion: the next day, in hospital, I found him rational. He subsequently became delirious. After long treatment he was invalided; the intellect enfeebled, but not destroyed, and the sight of the left eye in the same manner saved, in an impaired state. This was in 1832; and although I have not heard of him lately, I know he was alive and in tolerable health some three years ago.

These have appeared to me the chief varieties to be observed in the symptoms indicative of different degrees or kinds of injury to the head. Fully alive to the danger of deducing general principles from inadequate data, I have carefully studied parallel cases, following out their consequences by post-mortem examinations when they proved fatal, and thus endeavoured to obtain, for myself and others, guides for diagnosis and treatment. Without any preconceived theories or views on the subject, I have already told you I began to observe, scrupulously abstaining from any thing like general conclusions until I had not only observed and treated, but carefully noted and recorded all the symptoms and appearances of these injuries, and their consequences, in a great number of cases.

The general results and facts upon which the views I have endeavoured to convey to you are founded, are given here: the results of ten years' observation, including the whole period of my service in the Peninsula. In Spain, during one year alone, more than a hundred cases came under my notice. The field, therefore, has been extensive; and as the gleaner was not idle, I hope the results will not be altogether without value. Before concluding with a few remarks on the treatment of these injuries, the most complicated and interesting in surgery, I will bring before you, at one glance, the principles laid down in these lectures, and the conclusions on which they are founded, that you may thus the more readily be enabled, at the bed-side, to test, and reject or adopt them, by the results of your own experience hereafter.

1. The most common injury of the head is Concussion; more powerful in its effects, more universally pervading the fibre of the brain and the system generally, than any other. There can be no injury to the head from violence without it: it therefore complicates all; or, more naturally and simply, this may be considered the one great and elementary form of injury, to which any or all the others must, if they exist, be superadded, when violence has been suffered.

2. Compression, ramollissement, lesion of structure, may exist without concussion; yet so generally are they the consequences of a jar or shock, and so constantly do they require to be discovered and treated, not as simple or singly

existing diseases, but as complications of the first great injury, concussion, that the study of them in this form is absolutely necessary to a due appreciation of the effects of injuries of the head. Otherwise we should find, that when we knew the effects of compression simply, we had yet to learn to distinguish them when supervening on concussion.

3. The effects resulting from injuries of the head are of several kinds as well as degrees; and as the most practical mode of classing them, they have been referred to the three nervous systems or centres through the medium of which they are manifested.

a. The cerebral system, and such portion of the spinal as contributes to cerebral sensation, perception, and motion.

b. The excito-motory or true spinal system, including all manifestations of spinal reflex actions; among which are respiration, deglutition, vomiting, convulsions, the action of the sphincters.

c. The great sympathetic—the nervous system of organic life, as it was termed by Bichat, governing secretion and nutrition throughout the body, and probably, in a great measure, circulation through the heart's action.

Lesion of one of these does not necessarily imply, *in primo loco*, injury of any other; although disturbed functions in all generally follow as a secondary consequence. Injuries of the head and spine sometimes, in the first instance, affect chiefly or solely the first; in other instances the second; in others, again, all three.

If one be affected only, and subsequently others, they are generally implicated in the order in which I have placed them. But if the circulation be considered as chiefly referable to the sympathetic, then this will often be the second in order.

In proportion as one or more, or as one or the other, of these nervous centres are chiefly implicated, will the nature of the effects and the character of the symptoms developed be varied.

The functions of the first or cerebral order may be impaired or apparently annihilated, without, for a considerable period, any serious disturbance of the two following. Any one cerebral function may in like manner be affected, exalted, impaired, or annihilated, without much disturbance of any other part of the same system. (See cases, p. 419.)

In some rare cases, this may also take place when the second order is the seat of injury—as in tetanus and hydrophobia; generally, however, the cerebral and sympathetic are speedily implicated.

The third, when seriously injured, involves the other two, generally promptly and fatally.

The order in which these are implicated in injuries of the head, has no certain reference, and furnishes but an imperfect scale of degree of injury. A wound of the cerebrum, capable in a few days of destroying life, may leave, until all the vital powers are ebbing, the excito-motory and sympathetic systems unaffected. (See case of Maj. G., p. 418.)

When these are involved, however, as a result of cerebral injury, they always imply a grave and dangerous lesion.

4thly. Severity and succession of effects are better guides for diagnosis and treatment in these injuries, than even the accurate knowledge of their exact nature or actual extent, which can rarely be attained. With effects we have to struggle, and they afford valuable diagnostics for the prognosis and the treatment; for by these effects, rather than by the nature of the injury in the majority of cases, must the prognosis be formed. In these cases, it will be found that similar effects succeeding an injury, more generally give similar ultimate results than can be predicated from any similarity of injuries.

5thly. It is important to know that similar kinds and degrees of injury, as far as any material alteration or lesion can define them, give very variable effects (see cases of *Elam; Flynn*, p. 448). The one recovered with some permanent irritability of fibre, the other died; proving the impossibility of predicating, *from any knowledge of the original injury*, what form the sequences will assume. Although even the ultimate effects of concussion are various, there is one form much the most common, and that is, permanent irritability of nervous or cerebral fibre. (See cases of *Boase & Wilson*, p. 451, in illustration.)

6thly. It is a great error to consider concussion to have ceased its action and influence on the brain and system generally with returning consciousness, sensation, and voluntary motion. The cessation of coma does not mark the termination of the effects of concussion, neither does that injury in a severe degree always produce coma in the first moments.

A lethargic state, coming on subsequent to the first moments of injury, is very frequent in cases of concussion; supervening probably a few hours after the blow or shock. These have hitherto been held to be instances of extravasation, effusion, &c. Their sudden relief by bleeding proves this to be impossible. If these symptoms arise from compression, as I believe they often do, it is the pressure of fluid within the cerebral vessels, acting on a debilitated fibre, which may have lost its power of resistance. (See case of Philip Thorne, p. 446.)

7. The usual effect of concussion on pupil and pulse is to dilate the one, depress and impede the other. The pulse and the respiration frequently both present the same character.

Dilatation of pupil; drowsiness; laboured pulse; slightly impeded breathing; in milder forms, vomiting—in these consist the chief features of a moderate degree of concussion, not violently affecting either the excito-motory or the ganglionic system; its effects confined chiefly to the head, which does not always happen, even in slighter degrees of injury. (See cases, pp. 446, 493, for three different degrees of concussion.)

Thus concussion, followed beyond its first evidence, presents a group of symptoms and effects in the following order:—

In reference to the cerebral system:—

1. Coma, or depressed action.
2. Febrile, or exalted action.
3. Irritability of cerebral fibre.

To give a clear impression of some of the more important of what may be termed "*Subsequent or secondary effects of concussion*," I will class them in the following order. The most common course of concussion, in various degrees of intensity, has been fully described. These subdivisions may now, therefore, be considered in the light of important deviations from the more usual course, but all distinctly referable to Concussion as a first cause, and unless so classed and considered, calculated to lead to serious errors of diagnosis and practice.

a. From concussion will occasionally result, without any intervening coma, symptoms of irritation or inflammation, attended or not with late developed stupor. (See case of Davis, p. 452.)

b. In some cases the converse of this may be observed; that is, from the stupor of concussion no reaction is ever manifest, but the patient gradually recovers from a prolonged lethargy, never having given sign of inflammation or irritability of brain. (See case, p. 419.)

c. Again, in other cases, even during the first comatose stage, particularly if the case be complicated by lesion, or the lodgment of a foreign body, an exalted and high inflammatory action supervenes. Either inflammation, or irritation only may become developed, the pupil contracting during the coma, and the pulse beating sharply. (See case of Cole, p. 486.)

d. Even if a shock or concussion give rise but to a temporary or imperfect state of coma, its subsequent effect may be a quickly succeeding disorganization of the brain; and this may be either partial or general. (See case of Medley, p. 488.)

e. Concussion in other cases seems to cause death by rendering the brain unfit for its functions, without any obvious alteration of structure. (See case of King, p. 489.)

This effect, the most extraordinary of the whole list, perhaps, is curiously and beautifully exemplified by the occasional effects of concussion on the eye. I have, for instance, observed in that organ the following as distinct consequences of a shock:—

1. Disorganization of the whole of the contents of the sclerotic. (See case of Baker, p. 489.)
2. Partial alteration of structure.
3. Total destruction of sight; entire loss of visual function, without any trace of disease or perceptible alteration of structure. (Cases of M'Naughton, p. 490, of a gentleman, and of Clewes, p. 493.)
4. Partial destruction, amounting only to impaired vision. (See case of Sullivan, p. 490.)

Mark how perfectly they correspond with the effects observed in the brain; and the confirmation thus furnished by analogy of the accuracy of my views on this subject is the more gratifying to me, that the facts came under my observation second in order, not originating, but explaining, that which carefully recorded symptoms and appearances had previously suggested to me as taking place in the brain.

f. Concussion sometimes gives rise, in addition to the diseased action in the head, to others which I shall term "*Dispersed*

effects," or disease in distant parts. Under this head I place, for instance, abscesses of sudden formation, in the lungs, liver, joints, &c. Several strongly marked cases I related. (See M'Lellan, Mead, p. 449, 450.)

g. Under violent concussion neither pupil nor pulse in some cases will give any indication of irritation or inflammatory action, however violently and fatally developed in the brain or its membranes. The pupil will continue fixed and widely dilated, the pulse slow, laboured, and even feeble. (See case, Wm. Knight, p. 452.)

8. Compression rarely manifests the same controlling power over the pupils as that which I have attributed to concussion. Lesion occasionally does produce the same effect. (Case of Jennings, p. 522.)

Compression does not, even when great and extensive, invariably produce dilated pupil. (Case of Watson, p. 523.) Neither does it necessarily induce stertor. (See case of Frederick, p. 491.)

Compression may even produce coma of the most complete kind, and yet the pupil remain unaffected and perfectly natural. (See case, Watson, p. 523.) This I have never seen in violent concussion.

9. The continued labouring character and slowness of the pulse is one of the best signs of compression—pressure not necessarily from effused or extravasated fluid—it may be from pressure within the vessels; and this is easily determined by depletion, which in extravasation, &c. affords no decided relief; while in the latter form of compression its good effect is prompt and indisputable.

10. Lesion, unless very extensive, produces less impression on the different nervous centres, and in general fewer symptoms and effects than any of the elementary forms of injury enumerated. It assumes more the form and character of a local disease. The severity and variety of effects seem rather to depend on the degree of attending concussion or compression than on lesion.

11. Ramollissement will give all the symptoms both of concussion and compression. (Page 488, case of a gentleman.

12. An intermittent pulse seems to depend not on any degree of injury to the head, but on some peculiar irritation. It is not a common symptom either of concussion, lesion, or compression, and but rarely exists in concussion alone. I have occasionally observed it in complicated cases. (See Wm. Knight, page 521.)

Having now defined and described, as far as limited time will permit, the elementary forms of injuries of the head, and classified the numerous and complicated effects to which they give rise, I proceed to the treatment, which is comparatively simple; the difficulty lies in distinguishing the true character of the case. Unless the coma be of such death-like influence that it seems likely to extinguish life, in which case I would administer diffusible stimuli, I have invariably seen the best effects, and not seldom immediate relief from free depletion. And if the pulse present some volume with its sluggish character, this is the treatment I have successfully adopted in a very large number of cases; nor have I ever seen any injury result from the practice thus guarded.

Next to depletion I consider the free action of the bowels important; and for this purpose, if there be a state of coma, a purgative enema should be thrown up. If deglutition be possible, the patient should swallow a full dose of jalap and calomel, or calomel and colocynth, followed by a solution of the sulphate of magnesia, and small doses of tartarized antimony.

Next in importance, I place cold applications, and a shaven head. There was but one order in the military hospitals under my direction—viz. to shave the whole head within an hour of admission in all cases of head injuries, as the surgeon then both sees what he is about, and is enabled to make all applications to the head efficient.

The skin and the kidneys assist much in the antiphlogistic measures, and their action should be promoted; diaphoretics and diuretics combined at intervals with the purgatives. By these derivative or subdepletory measures, the surgeon will much diminish the necessity for large and frequent bleeding; but this must be resorted to without hesitation whenever the inflammatory action is manifested in the brain, or its membrane; and in many cases when stupor comes on after a partial recovery—℥xii., ℥xviii., or 24 ozs., at a time, and repeated the same day if the symptoms do not indicate subdued

action. When the pulse changes its character from slow and languid beats, 40 to 60 per minutes, to a sharp, thrilly, and more rapid character, generally the dilated or natural pupil will become strongly contracted; these are your chief signs for free depletion; the same actions may exist without being manifest by these or any other symptoms. But when these are present, bleed, and bleed freely; purge and sweat the patient, or death is certain.

There is, however, an exception to this otherwise very general rule of practice, viz., when the subject of injury has been of a drunken and debauched character; when, in fact, the wound is followed by an attack of what may be termed, traumatic delirium tremens. And these cases require much discrimination to be distinguished, since complicated by a severe injury they do not offer the same broad and legible indications of the true nature of the constitutional disturbance. It behoves you to watch carefully and avoid an error which would in all probability be fatal. Notwithstanding the two contrary indications afforded by severe injury to the head on the one hand, and the delirium tremens on the other, you must not think of bleeding. On the contrary, stimuli, and even brandy, combined with opium and doses of calomel, will offer the best chances of safety, perilous as the treatment may seem.

With respect to depletion generally in head injuries, I must also beg you to bear in mind that large and repeated abstractions of blood have a direct tendency to induce irritability of fibre, which is a very general and unfortunate result of concussion, independent of any treatment which may be adopted Never bleed, therefore, without a definite object and distinct indication, and bleed neither more largely nor more frequently than seems absolutely required. Stimulating the secreting organs, so as to produce increased discharge, will often answer all the purpose of repeated bleedings, and without their disastrous effects.

If any puffiness of scalp or burrowing of matter take place, one, two, or three free incisions to the bone generally stop the mischief, and they should be made without any unnecessary delay or hesitation.

In the long-continued irritability of cerebral fibre, bringing on pain of head, giddiness, &c., on exposure to the sun, or the application of any other stimulus, I have in some cases found a mild mercurial course perceptibly diminish it.

Of the local treatment of all wounds or contusions of the head I have already spoken in a previous lecture.

With these simple but comprehensive directions for the general treatment, I must conclude my observations on injuries of the head. Although the subject is very far from being exhausted, the limit I had originally fixed has been exceeded. I trust, however, gentlemen, you will find that the time has not been ill bestowed. It was necessary, indeed, to consider these injuries and their effects, both comprehensively and in detail. Some of the principles I have endeavoured to establish are new; many of the opinions stated are at variance with those hitherto most in vogue with the profession. To have confined myself to a meagre statement of conclusions, without the facts and circumstances on which they were founded, would neither have been fair to you nor myself. I have preferred, therefore, giving them in a state so far complete as to admit of being maturely weighed, tested at the bed-side, and judged by results.

A CLINICAL REPORT

OF

TWENTY-THREE CASES OF UTERINE HÆMORRHAGE,

FROM ATTACHMENT OF THE PLACENTA TO THE NECK OF THE UTERUS.

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[*For the Medical Gazette.*]

Guillemeau was the first who stated that the placenta may present, or come before the child, that a dangerous flooding then takes place, and that the most safe and expedient means of arresting it is to deliver immediately, by passing up the hand into the uterus and turning the child.

Mauriceau likewise knew that the placenta sometimes presented, or came before the child; and in all cases of hæmorrhage from this cause he recommended immediate delivery, as Guille-

meau had done. Mauriceau has related seventeen cases of uterine hæmorrhage in the latter months of pregnancy, from presentation of the placenta; and in sixteen of these delivery was accomplished artificially, by passing the hand through the opening formed by the separation of the placenta from the uterus, rupturing the membranes, and turning the child. Two women died after this operation, and one, who would not consent to artificial delivery, died undelivered.

Paul Portal's treatise contains the histories of several cases of uterine hæmorrhage, depending upon attachment of the placenta to the inferior portion of the uterus; and he was fully aware, as early as 1671, that the placenta had not sunk down to the lower part of the uterus, but had been adherent to the internal orifice from the commencement of pregnancy. He employed the same treatment in all these cases that had previously been recommended by Guillemeau and Mauriceau.

Petit, Giffard, Rœderer, Levret, Smellie, Douglas, and William Hunter, related many cases of flooding, in the latter months of pregnancy, from this cause, and recommended the operation of turning as soon as the orifice of the uterus was sufficiently dilated to allow the hand to be introduced without the employment of much force. All the best writers on midwifery during the last hundred years have recommended artificial delivery where the placenta presents, and hæmorrhage takes place in the latter months of pregnancy. Every practitioner knows that the operation of turning should be performed in such cases, when the flooding becomes profuse, and the orifice of the uterus is dilatable. But in some cases the orifice remains so rigid, as to render the introduction of the hand into the uterus impracticable, while a discharge of blood is taking place sufficiently great to endanger or destroy life. There are no cases more embarrassing to the accoucheur than these, and none in the practice of midwifery attended with greater hazard. That they are not uncommon, and that we possess no means of effectually controlling the hæmorrhage till the operation of turning can be safely performed, the following histories sufficiently prove*:—

Case I.—Anne Cromer, æt. 42, St. James's Parochial Infirmary, 22d July, 1828. I was requested by the late Mr. Baker to see this patient, who was far advanced in pregnancy, and had been attacked with profuse uterine hæmorrhage a week or ten days before. The placenta was adherent to the neck of the uterus; but the orifice being rigid, the plug was employed for several days to check the hæmorrhage, till the operation of turning could be performed. A large quantity of blood was lost notwithstanding, both before and after delivery, and the exhaustion was so alarming, that it appeared very probable she would not recover from the immediate effects of the loss of blood. She, however, survived for eighteen days, and death then took place from inflammation of the left spermatic vein, and gangrene of the lungs on the left side.

Case II.—(1828.) A patient of the British Lying-in Hospital, near the full period of pregnancy, was suddenly attacked with a profuse discharge of blood from the uterus. She had been exposed to no accident, and had not experienced any uneasy sensation about the uterus before the blood began to flow. She was conveyed from her residence to the hospital immediately after the occurrence, but she was dead before any of the medical officers of the institution could see her. I examined the body, and found the centre of the placenta over the centre of the internal orifice of the neck of the uterus. On the left side the connection between the placenta and uterus was broken to a considerable extent.

Case III.—24th October, 1829. A woman in the seventh-and-half month of pregnancy, residing at 2, Parker Street, had a great discharge of blood from the uterus for thirty-six hours before I saw her. A large portion of the placenta was hanging through the os uteri into the upper part of the vagina. I proposed immediately to deliver, by turning the child; but she obstinately refused to submit to the operation, and I was apprehensive that she would die undelivered. The hæmorrhage continued with great violence for several hours, when the placenta and a dead

* Eight cases proved fatal out of nineteen related by Dr. Ramsbotham; one out of four, by Dr. Joseph Clark; and two out of eleven recorded by Dr. Collins.

fœtus were expelled without assistance. She remained long in a state of great exhaustion, but ultimately recovered.

Case IV.—On the 8th February, 1830, I was called to a woman residing in Falconberg Court, who had been attacked with profuse uterine hæmorrhage at the end of the seventh month of pregnancy. The placenta was protruding through the orifice of the vagina. I immediately extracted it, and a dead child followed. A great hæmorrhage succeeded, and she remained for a considerable time insensible, without any pulse to be felt at the wrists. She, however, gradually recovered.

Case V.—On the 24th of March, 1835, I was requested by Mr. French, surgeon to the St. James's Parochial Infirmary, to deliver a patient of the institution, who had uterine hæmorrhage, with presentation of the placenta. A great quantity of blood had escaped, and she was much exhausted. The os uteri being soft and largely dilated, I immediately proceeded to deliver, by passing the right hand into the uterus, through the opening made by the detachment of the placenta from its cervix, and by rupturing the membranes and turning the child. No difficulty was experienced in extracting the trunk, the head, and superior extremities of the child, and the placenta soon followed. The hæmorrhage immediately ceased, and the recovery was rapid. The child was dead.

Nothing could be more easy than the operation of artificial delivery in this case, and its performance required only a few minutes.

Case VI.—A few days after the preceding case I was consulted by the late Mr. Gosna, about a patient in the eighth month of pregnancy, who had flooding from attachment of the placenta to the lower part of the uterus. A large quantity of blood had been lost, and it was evident from the effect produced by this upon the system, that she would speedily sink if artificial delivery were not at once performed. The orifice of the uterus was widely dilated, and a large mass of the placenta, detached, was distinctly felt through it. The operation of turning was immediately performed, as in the last case, the hand being passed up into the cavity of the uterus, at the part where the separation of the placenta from the cervix had taken place. The placenta was soon after removed, and the hæmorrhage did not return. The child was still-born. The mother recovered rapidly.

Case VII.—On the 26th April, 1835, I was called to a patient of the St. Marylebone Infirmary, who was more than seven months pregnant, and had been attacked fourteen days before with alarming uterine hæmorrhage. The first discharge of blood took place during the night, when she was at rest; it was not preceded by a sense of uneasiness about the uterus, and could be referred to no accident or injury of any kind.

A considerable oozing of blood still continued when I first saw her. The placenta presented. The orifice of the uterus was opened to the size of a crown-piece, but its margin was so hard and undilatable, that I found it impossible, without employing too great force, to pass the hand into the uterus. After a cautious trial for about half an hour to get the hand insinuated through the orifice, I was compelled to withdraw it altogether, as there was no hope of overcoming the resistance.

On the 27th the flow of blood continued. The strength remaining unimpaired, and the os uteri being not less unyielding, I resolved to wait till relaxation should take place, and moderate the discharge by the recumbent position, and the application of cold externally and internally.

28th.—A large quantity of blood suddenly escaped, which produced syncope. The countenance was afterwards pale, the extremities cold, and the pulse rapid and feeble. The os uteri being soft and dilatable, I immediately passed up the hand, and delivered by turning. The child was born alive. The placenta was removed soon after; but though no further loss of blood was experienced, she continued gradually to sink, and died in a few days.

Case VIII.—On the 7th October, 1835, I was requested by Mr. Gairdner, of Foley Place, to see a patient residing in Frith Street, who had completed the seventh month of pregnancy, and had been attacked with uterine hæmorrhage three weeks before. A slight discharge of blood had continued during the whole of this period, but it had produced little

effect upon the system until a few hours before I saw her, when several pints of blood were suddenly discharged, and her whole strength seemed at once extinguished. The pulse was not perceptible. The extremities were cold, and the respiration feeble. The blood still continued to flow in great quantities, and it was evident death would soon take place if the uterus were not speedily emptied of its contents.

The os uteri was not dilated to the size of a crown, and it was so rigid that I found it absolutely impossible, though I employed a degree of force scarcely justifiable, to pass more than three fingers within it. The whole hand could not be made to pass, though it appeared certain that death would soon take place if delivery was not immediately accomplished. On the fingers being withdrawn for a short time, the flooding continued. I made another effort to turn the child, but the resistance could not be overcome. I then pressed forward the fore and middle fingers of the right hand between the placenta and uterus, so as to reach the membranes, which I succeeded in tearing open. Pressing the fingers still forward, they came in contact with one of the feet, which they grasped and brought down into the vagina. This was pulled lower and lower, till the whole extremity and nates were drawn into the os uteri; but so rigid did it continue to be, that although I exerted all the force I dared employ in dragging it down, half an hour elapsed before the pelvis of the child could be made to clear the orifice of the uterus. At last it was extracted, with the placenta, and the hæmorrhage ceased.

A violent rigor followed, which threatened for a time to destroy the patient. Bottles of hot water were applied to the feet and pit of the stomach, the whole body was covered with hot blankets, and brandy was liberally administered.

She slowly recovered from the effects of the immense loss of blood.

Case IX.—On the 18th October, 1835, Mrs. Ryan, whose pelvis is greatly distorted by rickets, was attacked suddenly with profuse uterine hæmorrhage, in the eighth month of pregnancy. I had delivered her once by craniotomy, and induced premature labour six times. She refused to submit to the operation on this occasion. On examination, at 4 o'clock the following morning, a large portion of the placenta was felt detached and protruding through the os uteri. The orifice, though little dilated, was in a state to admit of artificial delivery, but so great was the distortion of the pelvis that I found it impossible to introduce the hand within the pelvis to turn the child. The flooding still continued. There were no labour pains. I could feel the head above the brim of the pelvis, and I determined to endeavour to open and extract it with the crotchet. Mr. Brookes, surgeon to the British Lying-in Hospital, pressed hard over the fundus uteri, while I carried forward the fore and middle fingers of my left hand to the head, which I could scarcely touch. In the groove formed between these fingers, the point of the perforator was conducted to the head, and pressed steadily through the integuments and bone, and then the blades were opened. The undilated state of the orifice rendered this difficult, but it was accomplished without inflicting any injury on the orifice.

The crotchet was then introduced into the opening in the skull, and the head was dragged down, between the placenta and uterus, into the brim of the pelvis, where it stuck fast for a long time. The orifice of the uterus was still imperfectly dilated. After four hours very hard work, we succeeded in getting the base of the skull through the brim into the cavity of the pelvis, and delivered.

The placenta was removed soon after the child, and no hæmorrhage followed. This woman recovered in the most favourable manner, and she has since had premature labour induced twice, at the end of the seventh month of gestation.

Case X.—At $6\frac{1}{2}$ A.M., 28th October, 1835, I was called, by Mr. Cathrow, of Weymouth Street, to a patient seven months pregnant, who had been attacked with uterine hæmorrhage fourteen days before. It had occurred spontaneously. It returned slightly a week ago, and again went off. This morning it was renewed with increased violence, and was accompanied with labour pains. Mr. Cathrow examined, and found the placenta protruding through the os uteri. He drew it forward gently, and the whole ovum escaped without rupture of the membranes. The flooding ceased on the application of cold vinegar and

water to the external parts, and she was soon quite well.

A similar accident had occurred to her in a former pregnancy.

Case XI.—At 11 A.M., on the 30th October, 1835, I was request, by Mr. Crellin, Wellington Road, to see Mrs. S——, æt. 40, who was in the ninth month of pregnancy, and for fourteen days had suffered from slight uterine hæmorrhage. On the 29th, and morning of the 30th, it greatly increased, and was accompanied with alarming fits of faintness, succeeding each other rapidly. I found the os uteri dilated to about the size of a crown-piece, and rigid. The placenta, partially detached, was felt at the posterior part of the neck of the uterus. The membranes were dstinctly felt at the anterior part, and the head of the fœtus presenting above them. The pulse was neither rapid nor feeble, and the strength did not seem much impaired. I endeavoured, with the nail of the fore-finger, to tear the membranes, and believed I had done so, but was mistaken. The hæmorrhage soon returned, when three doses of the ergot of rye were administered by Mr. Crellin; but, though pains were produced, the hæmorrhage continued, and at 4 P.M. I discovered that the membranes were entire, and that no liquor amnii had escaped. I drew the nail, like a saw, for some time over a portion of them, and at last the liquor amnii began to escape in large quantity, and strong uterine contractions followed. The head of the child was soon pressed down between the anterior portion of the neck of the uterus and the placenta, where the separation had taken place, and the labour was safely completed in an hour. There was no hæmorrhage after the membranes had been perforated. The child was dead.

This patient had not recovered from the effects of the loss of blood for several weeks, and for several months a constant sanguineous discharge from the uterus remained.

In several other cases, similar to the preceding, of partial placental presentation, the membranes were ruptured, and the delivery safely completed without the operation of turning.

Case XII.—On the 10th of November, 1835, I was requested, by Dr. N. Grant, to see a woman, residing in Lower James Street, who had been suddenly attacked with profuse uterine hæmorrhage in the eighth month of pregnancy. Six days before, without any accident, when she had gone out to market, a great gush of blood took place from the uterus, which produced faintness. No fresh discharge occurred till this afternoon, when another immense flow of blood took place, and complete prostration of strength followed. When Dr. Grant was called to her, at $3\frac{1}{2}$ P.M. the hæmorrhage continued, and she was almost completely insensible, with cold extremities and a rapid feeble pulse. He found the placenta presenting. At 4 P.M. the flooding continued. The vagina was partially filled with clotted blood. On passing up the hand, I found the placenta adhering all round to the neck of the uterus. There was no point where the organs were completely separated from one another, where the hand could be readily introduced into the cavity of the uterus. The os uteri was considerably dilated. I found, on attempting to pass the hand, that it offered great resistance. This was, however, gradually overcome, and the fingers were slowly insinuated behind, between the uterus and placenta, into the cavity, and the membranes were ruptured, and the child speedily delivered by turning. The placenta came away soon after, and an immense flow of blood immediately followed. This was soon checked by the external application of cold and the introduction of the plug: but the pulse became imperceptible; the face covered with a clammy perspiration; the lips and hands livid; the breathing hurried, with great restlessness, and she died two hours after. Stimulants were wholly ineffectual in this case.

Case XIII.—St. Marylebone Infirmary, 17th November, 1835. A young married woman, the eighth month of her second pregnancy, was brought last night into the lying-in ward, in consequence of an attack of uterine hæmorrhage. She reported it to have been produced by great bodily exertion the preceding day. The hæmorrhage had almost entirely ceased on the 16th.

2 P.M. on the 17th, I examined, and found a portion of the placenta detached within the orifice of the uterus. The os uteri was slightly open, and rigid. Pulse not feeble; faintness entirely

gone. As she was not in a condition to admit of artificial delivery, rest in the recumbent position, cool air, &c. were recommended, until the circumstances should justify interference.

18th. — The hæmorrhage returned, and the edge of the placenta being distinctly felt passing into the membranes, they were ruptured, and the liquor amnii discharged. Labour pains soon came on, and a dead child was pressed down between the uterus and placenta, where they had been separated. The placenta was extracted soon after, and the hæmorrhage did not return.

This woman died afterwards in the wards of the Infirmary, from deep-seated inflammation of the uterus.

Case XIV.—I was requested by Dr. Boyd, assistant surgeon to the St. Marylebone Infirmary, to see a patient belonging to the institution, who had been attacked on Christmas-day with uterine hæmorrhage, during a severe fit of coughing. It disappeared without producing faintness, but returned thrice, to a much greater extent, and produced a marked effect upon the constitution. The countenance, when I first saw her, was pale, the hands cold, the pulse rapid and feeble, and a considerable hæmorrhage still continued. There were no labour-pains. The movements of the child had been recently felt. The os uteri was so much dilated that the points of four fingers and the thumb could be readily passed into it. The circumference was not thin, but it was soft and dilatable, and I experienced no difficulty in introducing the hand between the anterior part of the orifice and the detached placenta, a portion of which was hanging into the vagina behind. Before the whold hand entered the cavity of the uterus, or the membranes were ruptured, I had grasped one of the feet. The operation of turning was easily completed, and the child was born alive. The binder had been applied around the abdomen before the operation was begun, and it was tightened several times during the progress of it. I left the placenta for some time in its situation after the extraction of the child, to produce the effect of a plug: it was afterwards removed without difficulty, after the uterus had contracted, and the patient recovered in the most favourable manner.

Case XV. — March 24, 1836, I was requested, by Mr. Saunier, to see a patient, seven months pregnant, who, after suffering for several days from slight uterine hæmorrhage, was suddenly reduced to a state of the most alarming weakness, from a great gush of blood taking place. When I saw her, the blood was flowing copiously. The placenta could be felt adherent at the back part to the cervix uteri; at the fore part I felt the membranes. The orifice was so rigid, that it was impossible to pass the hand into the cavity of the uterus, to turn. I ruptured the membranes, and a great quantity of liquor amnii escaped, after which the flooding entirely ceased.

The ergot of rye was given, but labour-pains did not come on till the afternoon of the 26th, the second day after the membranes had been ruptured, when the child and placenta were expelled without a renewal of the hæmorrhage.

On the 28th she had violent rigors, with headache, delirium, and a rapid feeble pulse. Symptoms of uterine phlebitis manifested themselves in a few days, and she died on the 11th of April, from inflammation of the lungs. For a week before death, she suffered excruciating pains in the right shoulder-joint and arm.

Case XVI.—May 12, 1836, I was requested, by Mr. Kennedy, to see a patient who had awoke in the morning greatly alarmed by a discharge of blood from the uterus. The quantity lost had not been great, and the strength of the constitution was unimpaired. The orifice of the uterus was high up, and slightly open. I felt the placenta at the cervix. There were no labour-pains. Delivery was considered unadvisable at the time.

15th.—Hæmorrhage has continued, but not profusely, until this morning, when a great quantity of blood suddenly escaped, and she became extremely faint. There were no pains. The os uteri was largely dilated. I introduced the fingers of the left hand through the os uteri, and before the whole hand had passed into the cavity, I was able to lay hold of one of the feet and turn the child. The child was dead. The placenta was extracted soon after, and the flooding ceased. She recovered favourably.

Case XVII. — On the 3d December, 1836, I was called, by a medical practitioner, to a patient seven months pregnant, who had been attacked, on the morning of the previous day, with uterine hæmorrhage. It returned twice in the course of the day, and again ceased, without producing any great effect upon the constitution. The ergot of rye was repeatedly given, without any attempt being made to ascertain whether or not the placenta presented.

At 1 A.M., when I first saw the patient, the extremities were cold, and pulse scarcely to be felt. She was extremely faint. The os uteri was widely dilated, and a large portion of the placenta felt at the posterior part of the cervix. The operation of turning was easily performed, and did not last five minutes. The child was dead. The uterus having contracted, the placenta was removed in half an hour after the child. No hæmorrhage followed.

For three days she appeared to be recovering. Rigors, urgent thirst, pyrexia, pain in the loins and right side of the abdomen took place, and she died about ten days after, with the usual symptoms of inflammation of the veins of the uterus.

Case XVIII. — On the 20th December, 1836, Mr. Gaskell, of King's Road, Chelsea, requested me to see a patient residing in Lower Eaton Street, who had been attacked with repeated discharges of blood from the uterus, in the eighth month of pregnancy. The placenta was felt through the orifice of the uterus. The flooding had produced great exhaustion, yet the orifice of the uterus was not in a condition to admit of artificial delivery. For some days the hæmorrhage was controlled, but it returned with great violence, and Mr. Gaskell passed up the hand into the uterus, and delivered the child alive. The placenta soon came away, and Mrs. O. appeared for two hours to recover, and then suddenly expired without any further loss of blood.

Case XIX.—On the 10th March, 1837, I was called, by a surgeon residing near Holborn, to see a patient who had been attacked with profuse uterine hæmorrhage four weeks before, when at the end of the sixth month of pregnancy. It had returned at intervals, but in a slight degree. During the preceding night a large quantity of blood had escaped. Twenty grains of the ergot of rye had been administered about half an hour before I saw the patient, although no examination had been made to ascertain the actual state of the case. Pain followed the ergot, and a great increase of the discharge. I found the orifice of the uterus soft and widely dilated, and a large portion of the placenta hanging through it, detached from the cervix. I passed up the hand readily into the uterus, and laid hold of one of the feet of the child before the membranes were ruptured. The child was extracted alive without difficulty. The placenta was left as a plug till the uterus had contracted. The patient speedily recovered.

Case XX. — On the 19th July, 1837, Mr. Tucker, of Berners Street, requested me to see a patient in St. Martin's Lane, who had presentation of the placenta, and was reduced to a state of extreme exhaustion by the loss of blood. She was near the full period of pregnancy, and during the preceding seven days had, at short intervals, lost a large quantity of blood. I passed the hand readily through the orifice of the uterus, though it was not dilated more than an inch and a half in diameter, and after rupturing the membranes, grasped the feet of the child, and delivered without difficulty. The placenta was not removed for a considerable period. No hæmorrhage occurred, and the patient recovered after a severe attack of uterine phlebitis.

Case XXI. — On the 11th June, 1838, Dr. Boyd sent to request me to attend an out-patient of the St. Marylebone Infirmary, who had been attacked, five days before, while in the seventh month of pregnancy, with uterine hæmorrhage. A great quantity of blood had been lost, and the discharge going on rapidly, with frequent fits of syncope, Dr. Boyd proceeded to deliver by turning. I saw her soon after, when the placenta had been removed, and the hæmorrhage had ceased. There was still great faintness, the extremities were cold, and the pulse scarcely perceptible. She recovered from the immediate consequences of the hæmorrhage, but afterwards died with all the symptoms of suppuration of the uterine veins.

Case XXII. — On the 12th January, 1839, Mr. Jones, of Carlisle Street, Soho Square, called me to see a lady in the eighth-and-half month of pregnancy, who had been attacked with uterine hæmorrhage a month before. It first took place without any accident or pain, and the quantity lost was about half a pint, and it produced little effect upon the constitution. She remained quiet for several days, and then got up, and only felt a little weak. For ten days she went about, but the hæmorrhage returned on the fifteenth day after the first attack, but not to a great extent. Seven days after this a third and more profuse hæmorrhage took place; it gradually went off, but not so quickly as the other attacks.

At one o'clock, 12th January, it was renewed to an alarming extent, without any pain. About a quart of blood was suddenly lost, and she became extremely faint. At 4 A.M. the discharge still continued. When I first saw her, at 7 o'clock, she felt faint; the pulse was rapid and feeble; the upper part of the vagina was filled with a large clot of blood, which adhered to the os uteri. By displacing this at the back part, I could distinctly feel the placenta adhering all round to the neck of the uterus, which was thick and rigid, and very little dilated. The effect produced by the hæmorrhage was so great, that it was evident death would soon take place if the delivery were not speedily completed; and the state of the orifice was such, that it was certain the hand could not be passed but with the greatest difficult. At 8 o'clock Dr. Merriman saw her with us, and agreed that immediate delivery was necessary. I passed the right hand into the vagina, and insinuated my fingers between the uterus and placenta at the back part, and reached the membranes; but the rigidity of the orifice was such, that though I employed great force for a considerable time, I could not succeed in getting the whole hand into the uterus. Dr. Merriman recommended rupturing the membranes; and I was proceeding to do this with the fingers, when I felt one of the feet of the child, which I grasped and brought down into the vagina enveloped in the membranes, which then gave way. Nearly half an hour elapsed before the version could be completed; and when it was effected, the neck of the uterus grasped the neck of the child so firmly, that I experienced the greatest difficulty in extracting the head, and not till I had made pressure for some time with the fingers, and dilated the orifice of the uterus. A great discharge of blood instantly followed; the placenta was removed, and every means employed to stop the hæmorrhage; but the breathing became hurried, the extremities cold, and she died in less than an hour after delivery.

Dr. Merriman informed me that a patient of his had actually died under similar circumstances, before the head could be extracted.

The last case of hæmorrhage from placental presentation which I shall relate, occurred to Dr. H. Davies and myself, still more recently; and the circumstances were, if possible, still more distressing and unfortunate.

Case XXIII.—Mrs. H. was attacked with uterine hæmorrhage at the beginning of February 1839, when seven and a half months pregnant. About twelve days after it returned a second time, and yesterday morning a third time. About half-past 12, on the night of the 5th March, 1839, Dr. Davies requested me to see her with him, as the hæmorrhage had returned in a dangerous form, and the orifice of the uterus was not in a condition to admit of delivery. We found the placenta adhering all round to the neck of the uterus, the orifice rigid and undilatable, and open to the extent of a crown; the head of the child presenting. By cold applied externally and internally the hæmorrhage was restrained till six o'clock in the morning, when it was renewed with violence; the orifice in the same state. Dr. Davies then pressed his fingers through the placenta, tore it in two parts, and perforated the membranes.

8½ A.M. — No hæmorrhage; slight pains.

11 A.M.—No flooding; head pressing into the orifice of the uterus. We were prevented at this time from perforating and extracting the head by the rigid state of the os uteri. She seemed to regain strength during the day, but at 10 in the evening, without any further loss of blood, she began to breathe with great difficulty; the lips were livid, the hands and feet cold, and it was evident she would soon die undelivered if we did not interfere.

I opened the head, and extracted it with the greatest difficulty, in consequence of the firm and rigid state of the os uteri. The operation was scarcely completed before she was dead.

ON THE

BLOOD-VESSELS OF TENDINOUS TISSUES.

By James Paget,

Demonstrator of Pathological Anatomy, and Curator of the Museum, at St. Bartholomew's Hospital.

The vessels of the long and rounded tendons, in which the structure peculiar to this class of tissues is found in the greatest purity, have not yet (so far as I know) been accurately described*. By some their existence has been denied; and by others it has rather been assumed from the powers of growth and repair which these tissues possess, than proved by actual demonstration. The subject which would at any time have been of some interest has of late become important, by the frequent performance of operations on the tendon of the gastrocnemius and other muscles.

The vessels connected with the tendons are of two kinds; one set being distributed in the loose filmy cellular tissue, or synovial sheath surrounding the tendon; and the other in its very substance. The vessels of the sheath are easily injected, and are those which are generally preserved in museums, and figured as the vessels of tendon. Their chief trunks are of considerable size, and pass to the sheath near the middle of the length of the tendon; their branches are given off with great irregularity, and after traversing the tissue in a vaguely arborescent form, and frequently anastomizing, terminate in a moderately dense net-work. Each artery has two associated veins.

The vessels of the substance of the tendon are quite distinct from these. They run in straight and parallel lines, from one end of the tendon to the other, between the fasciculi, rarely giving off branches and rarely anastomizing. Of the few branches which are given off, the greater number separate gradually and at a very acute angle from the trunk, and then pursue their course parallel to it; but occasionally a branch passes transversely across the intermediate tendinous fibres, from one vessel to another adjacent to it. The vessels of the substance communicate but rarely with those of the sheath of the tendon, and are derived from the vessels of the muscle or of the part in which the tendon expands to be inserted; so that I have sometimes succeeded in completely injecting both ends of a tendon, while the vessels of the middle portion remained empty. Each artery is accompanied by a single vein.

According to the measurement of my friend, Dr. Baly, the diameter of the straight vessels is about 1-1650th of an inch; and they retain the same size through their whole length. The spaces intervening between the adjacent and parallel vessels are much wider than the vessels themselves; yet, in a well-injected and dried tendon, they are sufficiently close to give the whole mass a brilliant red colour when it is viewed from a short distance against a dark ground. In their degree of vascularity, I should place tendons between muscles and the compact structure of bones; the place which would also be suggested by a comparison of the respective activity and completeness of the powers of repair of each of those tissues.

The same general plan of vascular arrangement is found in all the tendinous tissues. In the aponeuroses and in the fasciæ which contain tendinous fibres, the arrangement is somewhat complicated; the cellular interspaces between the glistening tendinous fasciculi are larger than in the tendon, and numerous minute vessels pass irregularly through them, from one surface of the membrane to the other. A linear and parallel arrangement of the proper

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* Among many works to which I have referred, I may mention, Ruysch, Opera Omnia. In Thes. Anat. Asser. 1, No. 6, and in Thes. Max. No. 203, Injections of the sheaths of the tendons of the gastrocnemius and flexors of the toes.

Albinus, Historia Musculorum, p. 11. He speaks of vessels both within and without the tendons, but does not particularly describe either.

Haller, Elementa Physiologiæ, vol. iv. 429. Copies Albinus.

Lieberkuhn, Index Præparatorum Anatomicorum.

Prochaska, Disq. Anat. Phys. Organismi Corp. Hum. p. 99.

Hunter, Works, by Palmer, vol. iii. p. 101, &c.

Bichat, Œuvres Complètes, vol. v. 274, &c.

Mascagni, Prodromo delle grande Anatomia, pp. 99, 110, &c. and Tav. 8, f. 2.

E. H. Weber, in Hildebrandt's Anatomie des Menschen, vol. i. and vol. iii. p. 43.

Müller, Physiologie des Menschen, vol. i.

Grainger, Elements of General Anatomy, p. 347, &c.

Berres, Anat. Part. Microscop. Corp. Humani.

vessels is, however, easily discerned, and where the membrane is composed of two series of tendinous fibres interwoven at right angles with each other (as in the palmar fascia, where it separates into slips near the articulations of the metacarpal bones with the phalanges,) there are also two sets of straight and parallel vessels crossing each other in different planes.

In the cord-like ligaments, the same arrangement of vessels is found as in the round tendons; and in the expanded ligaments the same as in the aponeuroses. In both, the vessels of the tendinous tissue are distinct from those of the cellular tissue enveloping or incorporated with it, and the general vascularity of the whole is in direct proportion to the quantity of cellular tissue. In the fibro-cartilages, also (as far as I have been able to inject them), the same plan exists. In the semilunar cartilages of the knee-joint, for example, vessels run in the substance of their thick margins, in arcs of concentric circles, following the course of the tendinous fibres.

It is not easy to imagine why it should have appeared so difficult to inject the vessels of the more perfect tendinous tissues. The material which I have employed is the common mixture of size and vermilion, which I have impelled with some force into one of the main arteries of the limb. The cellular sheath should be dissected off, and the tissue slowly dried, with care that it is not too much stretched. The first and best injection I have made is of one of the flexor tendons of the foot of a calf about a week old; and I imagine that young subjects are the best; but I have succeeded in effectually injecting all the tendinous tissues of the leg and arm in persons of between 30 and 40 years of age.

3, Serle Street, Lincoln's Inn.

CASE OF SCROFULOUS ABSCESS OF BOTH KIDNEYS,

IN A BOY, AGED TWELVE YEARS.

To the Editor of the Medical Gazette.

Sir,

I send the enclosed case for insertion in your valuable periodical, should you consider it worthy of being recorded in your pages.—I am, sir,

Your obedient servant,

S. G. Lawrance.

Royal Military Asylum, Chelsea,
July 6, 1839.

Joseph Grant, aged 12 years, born at Gibraltar, was admitted into this institution in July 1836. A boy of scrofulous constitution, having a dry furfuraceous state of the skin, with occasional enlargement of the submaxillary lymphatic glands; rarely, however, in the hospital, except for trifling complaints of a few days' duration, until February 5, 1839, when he was admitted for severe ulcerated chilblains.

In the beginning of March he was attacked with fever, but did not complain of much local pain; nor was attention drawn to the state of his urinary organs until the 28th of March, when he complained of pain and smarting in making water, with very frequent desire to make it. On examination, there was œdematous swelling of the prepuce, with slight enlargement of the body of the penis; and a small circumscribed swelling, of the size of a small hazelnut, in the course of the urethra, just in front of the scrotum, very hard, and painful under pressure. Two or three of the inguinal glands in each groin were also enlarged, apparently from sympathetic irritation. He could assign no cause for this swelling, and said he had only perceived it a day or two. Pulse 120; dry, unperspirable skin; thirst; frequent micturition; and the general symptoms of fever. His urine was observed to be turbid and milky, soon forming a deposit, and, on being tested, had little or no effect on either litmus or turmeric paper. On the 30th March, the swelling had increased to the size of a small walnut, and, fluctuation being perceptible, it was punctured, and about a tea-spoonful of pus evacuated. Mr. Stanley, surgeon of St. Bartholomew's Hospital, saw the boy with me at this time; and we sounded the bladder, suspecting calculus, but nothing could be perceived, excepting that it was in a very irritable state, and the operation appeared to give the boy much pain. In a few days the febrile symptoms were mitigated, but his pulse continued very quick, varying from 100 to 120; and the irritable state of the bladder remained the same, as also the

state of the urine. He was frequently asked if he had any pain in his back or loins: he always said he had not. The region of the kidneys was often examined, and pressure used, but he only complained of the continual desire to make water, with pain in voiding it—passing only from half an ounce to an ounce at a time.

April 6th.—The urine now passes both through the fistulous opening in front of the scrotum and orifice of the urethra; the meatus is also slightly ulcerated. The urine continues turbid and milky, and deposits a copious sediment very soon after it is voided. I took some of the urine to Dr. Prout, who was so kind as to analyse it. He stated that it was serous and purulent, and that it was strumous pus, and thought it most probably proceeded from the kidney; for, in his experience, he had never found such matter in calculous cases. He also prognosticated a fatal termination.

From this time the boy continued nearly the same, with very little variation in the symptoms, except that he gradually emaciated; and the character and appearance of the urine remained unchanged, but the purulent deposit varied as to quantity.

May 6th.—The urine now begins to dribble from him when in the erect posture, and an accumulation of it appeared to take place in the perineum behind the scrotum, forming a small pouch in the membranous part of the urethra; so that by pressing that part, it oozed out both from the fistulous opening and orifice of the urethra.

16th.—He now began to have evening febrile exacerbations, and regular hectic fever commenced. He still says he has no pain any where, except in the urethra and perineum; and is chiefly inconvenienced, and his rest disturbed at night, by the irritable state of the bladder requiring him to make water almost every hour. There is also more ulceration of the meatus urinarius, and excoriation of the scrotum is threatened by the constant dribbling of the urine.

27th.—The urine this morning contained an increased quantity of purulent deposit, with some ropy mucus; and emaciation more sensibly and rapidly increases. Hectic fever continues, and his appetite, which has been always very capricious, begins to fail. The pouch or deposit of urine in the perineum does not enlarge, but, on pressure, is always found to contain a small quantity of urine.

June 4th.—To-day, for the first time, he complained of pain on the left side of his chest, and over the region of the kidneys, increased by pressure. He has also had, the last few days, a short dry cough; his countenance, at all times expressive of pain and anxiety, has now become more so, and he is evidently sinking; his pulse is very quick, and like a thread; and his appetite has entirely failed him.

10th.—He now speaks with difficulty, but is quite sensible. The stomach has become irritable, and rejects both food and medicine. The irritability of the bladder is extreme, but the turbid and purulent character of the urine has all along continued the same, and did not undergo decomposition or change on being kept for several days. The scrotum having been protected, has not excoriated; but there is deep ulceration round the meatus urinarius. He appears to suffer much, and is evidently dying.

11th.—He died at five o'clock this afternoon, being perfectly sensible to the last, and was apparently suffering less this morning.

Regarding the treatment it is not necessary to say much, as it could be only palliative. In the first instance it was antiphlogistic, with tepid baths, anodynes, &c.: afterwards tonics were employed, such as decoct. uvæ ursi, quinine, light preparations of steel, &c., with good, nourishing diet; in short, the scrofulous diathesis was kept in view, and the medicines employed adapted to it. The peculiar, dry, furfuraceous state of the skin was remarkable, and a perspirable state of it could not be produced by any of the remedies.

Examination of the body: Thorax.—The lungs on both sides adhered to the parietes of the chest, but the adhesions were evidently of long standing. At the posterior part of both the right and left lung, a vomica of the size of a small hazel-nut was found, containing purulent matter; a few tubercles were also found dispersed throughout their substance, the greater part of which, however, was crepitating and healthy. The heart and pericardium were natural.

Abdomen.—On opening this cavity, the omentum, which was entirely desti-

tute of fat, and the whole of the peritoneal surface of the intestines and viscera, were studded with small yellowish tubercles; also between the folds of the mesentery; but the mesenteric glands were of normal size and appearance. The right kidney was next examined: on pressing it gently, previous to cutting into it, pus flowed freely out through the ureter to the amount of two or three drachms. On laying it open, several abscesses were seen; and the pelvis was ulcerated, abraded, and entirely denuded of its mucous surface. On slitting up the canal of the ureter, the mucous lining was only partially removed, there being several spots of ulceration on various parts of its internal surface. The left kidney also contained several abscesses, and, together with the ureter, presented the same appearance of disease as the right.

The bladder, which was much contracted, was then removed, together with the penis and urethra. On slitting up the latter, its mucous surface was found ulcerated and abraded, with two ulcerated holes in it, from which the urine and pus had evidently escaped, forming the small fistulous abscess which appeared in the urethra, in front of the scrotum, during life. There was also deep ulceration of the meatus urinarius. The incision was then continued to the fundus of the bladder, which was quite empty, its external muscular coat thickened, and the internal completely denuded of its mucous surface, contracted, and rugous.

The liver and other viscera exhibited nothing worthy of notice.

Remarks. — It is rather curious to observe how the ulcerative process was continued throughout the whole of the urinary organs, from the kidneys even to the orifice of the urethra. I may here also mention, that this boy's brother, aged eight years, who was born in Scotland, and admitted into this institution, from Gibraltar, in July 1837, died, on the 28th April last, of marasmus and general tubercular disease. On the post-mortem examination, the lungs were found hepatized and tuberculated, some of the tubercles in the first stage of softening or suppuration.

The peritoneum, covering the abdominal viscera, was studded with numerous grey-coloured tubercles, of the size of small peas. The mesenteric glands were much enlarged, and several of them converted into the peculiar, scrofulous, cheesy substance. The liver adhered firmly to the ribs and diaphragm, and contained several tubercles in its substance. The kidneys and urinary organs were in a perfectly healthy state.

The hereditary nature of tubercular disease was, I think, very strongly marked in the above instances. I am also sure, from the records which I have kept of post-mortem examinations for the last twenty years, that I may confidently assert that more than two-thirds of the deaths occurring among the children in this institution, are from scrofulous and tubercular disease.

I may add, that out of the great number of such examinations which I have made, this is the first instance in which I have met with any disease in the kidneys in children, and am therefore led to conclude that it is rare.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

The Discovery of the Vital Principle, or Physiology of Man. London, 1838. 8vo. pp. 566.

We recollect that many, many years ago, when we were schoolboys, a valuable publication appeared on the 1st of April for several times running. It was called the *Quizzical Gazette,* and its contents corresponded to its title. If you wanted a receipt for preserving pigeon's milk, or an exact transcript, in obsolete short-hand, of the statutes on lunacy passed in the Madeiras (mad eras), this was the journal to consult. Who was the editor of the pleasant periodical was as great a mystery as the authorship of Icon Basilike, or Junius's Letters. We cannot help suspecting, however, that the editor of the Quizzical Gazette and the discoverer of the vital principle must be one and the same person. If so, it is to be feared that, in growing old and rich, his mind has become obtuse, while his body has been growing obese; for, to speak candidly, his jokes do not tell. They may have been well conceived, but they are not well brought forth; or, as the Irish-

man said, they have been changed at nurse; and in our humble yet infallible opinion, a sixpenny number of the *Quizzical* was worth the lusty twelve shilling volume before us twenty times over.

That the author labours under a superfluity of money is clear from the bigness of his book. An octavo of five hundred and sixty odd pages, nicely done up in fancy cloth, is not brought out for a song. No starveling scribbler, accustomed to write at so much a sheet, would ever think of giving away 500 copies of so corpulent a treatise. We say "giving away," for the thing is unquestionably as unsaleable as last year's Almanack, or Curtis on the Ear. Nay, "if this be appreciated, another volume is in contemplation, in which it is proposed to give a more enlarged and comprehensive view of the primary and henceforward all-important subject—the Disease of Man."—(Preface, p. x.)

Our prophetic imagination already sees "the Disease of Man" disposed of at four-pence a pound.

> "Deferar in vicum vendentem thus et odores,
> Et piper, et quicquid chartis amicitur ineptis."
>
> "Our liberal author never stops,
> But scribbles for the chandlers' shops;
> What though no subject well he handles,
> He's excellent on tallow candles."—*Anon.*

Just to shew you, gentle reader, that our author (or quondam editor) has become fatwitted by lapse of time, we will quote from the Preface the three propositions which he intends to demonstrate in his book:—

"1st. That an ovum was originally formed, containing within its circumference or boundary, all known matter in a solid, latent, and inactive condition. From this ovum has arisen,

"2dly, The fœtal or fluid state of matter, which has been endowed with active life for the purposes of organization; the heart being our sun, the other heavenly bodies—the several organs belonging to the fœtus: the whole (our earth included) progressing at the present period towards the structure of one complete human frame, analogous to that of *man*.

3dly. The future, or perfected existence of the present fœtus as a locomotive being of celestial substance and imperishable nature: this last period answering to the life of man subsequent to birth, which is the aeriform stage."

A capital programme, no doubt; but, alas! the author makes nothing of it. The bill of fare is not the same thing with the dinner—as every one knows who has been at a bad, showy inn. The experienced diner asks, "What dishes are well dressed here?" Better to have good mutton, than fowls with every joint anchylosed.

If the Eccentric Society were to propose for their next prize dissertation the question,—Whether the present unsettled state of Europe does not arise from the decay of six-bottle men? it would be a sad balk if the candidates were to send in nothing but accounts of riots, and tables of the duty on wine. Now this is much the case with our author. Had he a scintilla of his former waggishness, such a programme would have afforded a mine of quips and cranks; he might have brought out a *Quizzical* daily, instead of yearly. Instead of this he gives us the contents of his common-place book touching carbon, iron, diamonds, and the like; and only relaxes now and then, as when he explains the "original formation of the moon or brain;" not neglecting to inform us that "the moon bears the same analogy to the earth as the head to the human fœtus."—(P. 265.)

But enough of this: those who want to learn more of our author's fancies must try to rescue a copy of this book from the dealers in such kind of paper.

An Inquiry into the Morbid Effects of Deficiency of Food, chiefly with reference to their occurrence amongst the destitute Poor: also, Practical Observations on the Treatment of such Cases. By Richard Baron Howard, M.D. &c. London, 1839. 8vo. pp. 77.

The essay before us is the result of observations made by Dr. Howard, during a residence of more than eight years in the Royal Infirmary and Poor House, in Manchester. Exclusively of an introduction, there are seven chapters in the essay on the following subjects:—the nutrition and waste of the body; the symptoms of deficiency of food; general remarks on the morbid effects of deficiency of food; the pathology of inanition; the morbid appearances after death from inanition; diagnostic marks of the morbid states produced by starvation; the treatment of the morbid effects of the deficiency of food.

The following passage is instructive; it is from the chapter on diagnosis :—

"Coma arising from exhaustion generally comes on gradually, though sometimes the attack of insensibility is sudden. It is not uncommon, for instance, for an individual exhausted with abstinence, to become giddy, stagger, and fall down senseless in the street. As soon as he is discovered, he is perhaps conveyed to an hospital, stupified and cold, with almost suspended action of the heart and respiration, and unable to answer questions. Now let us suppose that the miserable condition of the sufferer had attracted the pity of some passer-by, and that he had expended the pittance, bestowed upon him, at a dram shop, with the hope of reviving his prostrated strength; the alcoholic draught would, very probably, by its powerful effect on so exhausted a frame, hasten that insensibility it was taken to avert. When in this state, his breath would be perceived to be tainted with the smell of spirits, and he would probably be considered by those who saw him to be in a state of disgusting intoxication, and left neglected to perish from cold and exhaustion. Such is by no means a rare case, and one which all who have been long attached to a public medical charity must have witnessed. The stupor, staggering, occasional wandering of the mind, and insensibility, consequent on exhaustion from starvation, are constantly mistaken by the public for intoxication; and though, in the state of the pulse and pale collapsed appearance of the countenance, the medical man has symptoms to guide him in forming a diagnosis, yet, if an individual in the insensibility of intoxication has been long exposed to cold, the pulse becomes so much reduced, and the countenance so much altered, as to afford no certain criterion. Now, although it must be admitted that it is scarcely possible any error could be made in the treatment of such cases by any well-informed medical man who examined the patient, yet they do not the less shew, that the *cause* of the symptoms may often admit of doubt."

On the whole, this is a plain, sensible essay, though not very striking. If Dr. Howard should re-write it, we would recommend him to deal less in generalization, or, at any rate, to give more of those minute and characteristic touches which shew that the painter is not drawing from recollection, but with his subject before him.

It is a strange thing, by the way, that in a work on starvation, there should be no mention of the new Poor Law. Is this not like acting the tragedy of Hamlet with the part of Hamlet omitted—*by particular desire?*

MEDICAL GAZETTE.

Saturday, July 13, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

SUCCESSFUL PHYSICIANS.

THERE are two perfectly opposite theories afloat concerning success in physic: the one has been forcibly expressed by Johnson, who says (in his Life of Akenside), that "a physician in a great city seems to be the mere plaything of fortune; his degree of reputation is, for the most part, totally casual; they that employ him, know not his excellence; they that reject him, know not his deficience." The contrary hypothesis is maintained by the authors of the Lives of British Physicians; they assert that the gloomy observation of the great moralist points not to the rule, but to the exceptions; and that study, diligence of observation, "and conscientious assiduity in practice, are crowned with all the distinctions which generous ambition aspires to reach."

It is quite clear that Johnson's apophthegm is a gross exaggeration; for those who employ a physician commonly do so either on the supposition that the good sense which he shows in other things will not desert him in physic; or by the recommendation of those who have had the opportunity of benefiting by his abilities. Dr. Johnson's error seems to have arisen, in part, from taking too limited a view of the qualifications requisite for success, and consi-

dering physic merely as a science, forgetting that it is also a practical art. Thus Dr. Akenside's ill success might be deserved, although he may have been far from deficient in mere medical knowledge. Let us take, by way of illustration, an imaginary example. A boy with abilities above the average, of reserved manners and studious habits, has a taste for natural history. Chemistry and botany are his favourite pursuits; and should medical books or cases fall into his hands, he reads them with even greater avidity. He attends a course of lectures on comparative anatomy, and is delighted. This removes all doubt, if any doubt remained; his friends agree that he is evidently cut out for the medical profession, and as they are in tolerable circumstances, they make him a physician. Years roll on; he gets his dispensary, and writes an essay on the circulation, but still no practice comes; and as the disappointed family will not say "Tom was wrong, and we were wrong," they call him "the plaything of fortune," and aver that "his degree of reputation is totally casual."

They forget, or, as fondness is not critical, they have never seen, that his person is unprepossessing, his manner cold and dry; that he has an alarming talent for setting every one right, from my Lord Duke down to Sally the housemaid; and that the women cannot bear him, but universally say, that "he is very clever, only rather too serious for his age." Moreover—and perhaps this is the worst defect of all—he has no real taste for the practical drudgery of the profession. For, as many a man reads Horace with delight, who would shrink from hearing the fiftieth schoolboy drawl through "Donec gratus eram tibi;" so many a physiologist will make able experiments on digestion, but fail in saying to his dyspeptic patients, "Chew your food; avoid cucumber; pastry is an abomination." Yet without the constant repetition of the plainest facts, without the most sublime patience—nay, more, without the power of persuasion, physic, as a practical art, falls to the ground. The man who has not these qualities may teach physic to others, in as far as it is a science, but will not, and ought not to be sought after as a practitioner. To use the well-known illustration of the satirist, he will perform the part of a hone, which makes steel sharp, though itself unable to cut*.

Now we have not the smallest doubt that, in the majority of instances, those who have failed as physicians have been deficient in some of the qualities necessary to men whose success depends on diminishing the ills around them, morally as well as physically; for as the human body is often a more delicate test than the finest instrument, so public instinct will frequently point out defects which diplomas and medals, and papers in the Philosophical Transactions, might have hidden from our view.

On the other hand, it must be confessed that the authors of the 'Lives of British Physicians' deal rather too summarily with the question, when they assert that the youthful reader will be satisfied from perusing their volume, that merit meets with its reward. For as they have professedly selected only the successful, how is the demerit of the unsuccessful to be learned from their book? No one will deny the talents of Huxham and Pringle; but how can we learn from their lives that the ill success of Akenside was merited?

It would be a difficult task, indeed, to weigh the merits of deceased practitioners in an accurate balance; to show how and why the impetuous Rad-

* ——— "Fungar vice cotis, acutum
Reddere quæ ferrum valet, exsors ipsa secandi."

cliffe and the sober Fothergill equally attained an eminence which the poetical Akenside and the grave Aikin were unable to reach. But if this task would be difficult when its objects were the illustrious dead, how delicate would it become when performed upon the living? Who could venture, unswayed by preference or dislike, to analyse the compound, success, and show how much of it was made up of genius, industry, birth, fortune, and manner? Yet the author of a book which has just made its appearance* solves the difficulty by the simple expedient of one continued puff; he describes more than thirty London physicians of immense merit; and we are threatened with the portraiture of several more on some future occasion, who are now happily excluded for want of room. His praises are dealt out with such undistinguishing liberality, that they pall upon the palate, and become no more complimentary than the "pretty creature" of a parrot. Indeed, to praise with art is not quite so easy as might be imagined. Goldsmith says, "Though no people in the world flatter each other more than the English, I know none who understand the art less, and flatter with such little refinement. Their panegyric, like a Tartar feast, is, indeed, served up with profusion, but their cookery is insupportable. A client here shall dress up a fricassee for his patron, that shall offend an ordinary nose before it enters the room. A town shall send up their address to a great minister, which shall prove at once a satire on the minister and themselves†."

In order to improve this branch of science he proposes that we should copy some Eastern nations, and maintain professed flatterers. At certain Indian courts, he says, there is a *Karamatman*, whose business it is to cry, *Karamat!* "A miracle!" whenever the king, from his smile and manner, is supposed to have said a good thing. It is clear, that this officer requires tact and discretion, as it is not every smile of the sovereign that demands the official exclamation. Now the author of "Physic and Physicians" is a very bad Karamatman, and continually calls out miracle! in the wrong place. In talking of Sir Henry Halford, for instance, he says, "To be made a baronet—to have been for many years the chief court physician—to be for life, president of the first medical corporation in the United Kingdom — are, indeed, honours rarely, in this country, conferred on any one single individual." The plain fact is, that the President of the College is almost, as a matter of course, a Court physician, and is as sure of being made a baronet as a judge is of being knighted. Neither is he President for life, being subjected to an annual election. And when he sets about belabouring Sir Henry's Essays with his praises, he certainly exemplifies Goldsmith's censure, and flatters with very little refinement. Who but this mistaken person would speak of the "force and eloquence" in the President's paper "on the Education and Conduct of a Physician?" Elegant good sense is the characteristic of this and the other papers; great vigour there is not, and at eloquence there is no attempt.

Who but the compounder of "Physic and Physicians" would talk so boldly of Sir J. Clark's "unparalleled success in curing consumption;" who but he would say that before the publication of Sir James Clark's work on Consumption, "it was the generally received opinion in the profession, that *phthisical* disease was the common sequence of inflammation"? For ourselves we should be disposed to rest Sir James Clark's fame as a professional writer rather on his work upon Climate, than his treatise on

* Physic and Physicians: a medical sketch book, exhibiting the public and private life of the most celebrated medical men of former days; with Memoirs of eminent living London Physicians and Surgeons.

† Citizen of the World, letter 110.

Consumption. The author just quoted, indeed, dismisses the book on Climate in a line and a half; but he has such a wonderful knack at missing the best points, and expatiating on the wrong ones, that his brevity is a sort of confirmation of our opinion.

Again, in discussing the life and talents of Dr. Richard Bright, he tells us of his education, matriculation, and graduation; of his sketch of the zoology and botany of Iceland, and of his geological papers; nay, like an unfortunate player at blindman's-buff, he actually touches the desired object, though he cannot catch hold of it; for he mentions Dr. Bright's "admirable work on the Deranged Action of the Kidneys, as affecting the Cerebral Functions *," and his reports, which afford "practical information upon most diseases, but especially upon those of the kidney and the nervous system." But the great fact—the fact which has given Dr. Bright a European reputation—he misses. This fact (so well known that we are almost ashamed to mention it to our readers) is, his discovery of the connection between granulated disease of the kidney and dropsy with albuminous urine—a connection so frequent that the disease may be inferred from the secretion and the effusion. Dr. Bright has thus had his name conferred on a new disease, which is known on the continent as the *Maladie de Bright*, or *Morbus Brightianus*. Two lines stating this, or even alluding to it, would have been more to the purpose than the three pages dedicated to the biography of Dr. Richard Bright.

But what shall we say to the nonsense our Karamatman talks about Dr. Chambers? Of his "rising to the highest rank in his profession, although opposed by apparently insurmountable impediments;" of his coming to London "apparently friendless," and commencing his medical studies "under most disadvantageous circumstances." If he knew how to praise—if he were acquainted with the best-known facts—he would have said of this distinguished physician, that though every thing has been in his favour—so that we have for many years heard him spoken of as one whose success was certain—yet has this been so great as to surpass the warmest hopes built on the most favourable auguries. Nor can we comprehend by what arithmetic the author makes out that the annual receipts of a physician whose "house is daily beset by patients," should only average "nearly 4000*l*." When detachments of the opulent sick besiege his doors, and his visits are limited only by his powers of physical endurance, we should conjecture that his fees must be considerably more numerous than ten and a fraction per day. Neither is it a whit more correct, notwithstanding what is said in "Physic and Physicians," that Dr. Chambers is either a lecturer on the practice of physic or examiner to the East-India Company, inasmuch as he relinquished both offices some years ago.

We shall probably return to this subject on an early occasion, and may also take some notice of what the author says concerning deceased practitioners. As he no longer thinks himself obliged to play Karamatman here, this part of his work is much superior to the sketches of living doctors, and will entertain the lovers of light reading. Yet how could he make so singular a mistake as the following one?—"Baillie (he tells us) was rejected at the College. He called the next day on Dr. Barrowby, who was one of the censors, and insisted upon his fighting him. Barrowby, who was a little puny man, declined it. 'I am only third censor,' said he, 'in point of age; you must first call out your own countryman, Sir Hans Sloane, our president; and when you have fought him and the two senior censors, then I shall be ready to meet

* There is no separate work on this subject by Dr. Bright.

you.'" — (Vol. ii. p. 423.) We have heard of duellists whose pistols were loaded with currant-jelly; yet even such a combat would not be so safe as one between Baillie and the shade of Sir Hans Sloane—the latter having died nine years before Baillie was born. We need hardly add that Baillie was not plucked at the College, and that as he was a Scotsman, and Sir Hans Sloane an Irishman, they were not precisely countrymen. The compiler has evidently substituted Baillie for some other name; indeed we seem to have met with the story before, under better auspices. His *forte* is certainly rather in stringing anecdotes together, for the devotees of circulating libraries, than in the critical analysis of facts and characters.

ROYAL COLLEGE OF PHYSICIANS.

At the last *Comitia Majora*, Dr. Thos. Mayo, Dr. Richard Bright, Dr. George Burrows, and Dr. Robert Bentley Todd, were elected Censors for the ensuing year; and

Dr. George Gregory, Dr. Frederic Cobb, Dr. Henry Davies, and Dr. George Mann Burrows, were elected Fellows.

UNIVERSITY OF LONDON.

The first examination for M.B. at the London University has just taken place. There were twenty-six candidates: of those, sixteen have passed, whose names we subjoin. We also give copies of the printed papers that our readers may be aware of the nature of the examination; and we may add, that, besides what appears in the printed papers, the candidates were subjected, during six hours on Thursday, and the like period on Friday, to *vivâ voce* examinations and demonstrations in anatomy, physiology, chemistry, materia medica, and pharmacy.

LIST OF GENTLEMEN WHO HAVE PASSED THEIR FIRST EXAMINATION FOR M.B.

First Division.

1. Ayres—University College.
2. Cooke — Webb-street School of Medicine.
3. Hindle—University of Edinburgh.
4. Lewis—University College.
5. Mackenzie—University College.
6. Mauger — Westminster Hospital School.
7. Quain—University College.
8. Smith — Birmingham School of Medicine.
9. Taylor—University College.

Second Division.

10. Girdlestone—University of Edinburgh.
11. Hobson—University College.
12. Lang—Sydenham College.
13. Nicholl — Aldersgate School of Medicine.
14. Purvis—St. Thomas's Hospital and Webb Street School of Medicine.
15. Storrar—University College.
16. Tomes—King's College.

BACHELOR OF MEDICINE. 1839.

FIRST EXAMINATION.

Monday, July 1.—Morning, 10 to 1.

ANATOMY AND PHYSIOLOGY.

Candidates may illustrate their answers by sketching the parts they describe.

Examiners, Mr. Kiernan and Dr. R. B. Todd.

1. Describe the clavicle and its relations to the surrounding parts, and in what respects the clavicle of the male differs from that of the female. What are the uses of the clavicle? in what manner are the motions of the shoulder impeded in fractures of this bone? in which fractures are they most, and in which least impeded, and which motions are principally impeded? On what anatomical arrangement does the difficulty of diagnosis, in certain fractures of this bone, depend?

2. Enumerate the different kinds of joints, and give examples of each kind. Describe the general mode of arrangement of the ligaments and muscles, and the motions which take place in each kind of moveable joint.

3. State the attachments of the diaphragm, the foramina by which it is perforated, the relations of those foramina to each other, and the parts which pass through them. Mention also the exact relative position of the convex surface of the diaphragm, on the right and left sides, to the parietes of the chest.

4. Enumerate the agents employed in effecting the act of expiration, distinguishing those which are employed in ordinary expiratory acts, and those which

are called into action in the more violent efforts of expiration.

5. Commencing the dissection at the integuments of the side of the face, how would you proceed to show the course and distribution of the internal maxillary artery and its branches, and the parts contained in the zygomatic fossa? Describe the steps of the dissection, mentioning the parts in the order in which they are met with, and describe the two pterygoid muscles, and their actions.

6. What changes does the air undergo in respiration, and how may those changes be accounted for?

7. Describe the position of the heart and its relations to the other contents, and to the parietes of the thorax.

Monday, July 1.—Afternoon, 3 to 6.

ANATOMY AND PHYSIOLOGY.

Candidates may illustrate their answers by sketching the parts they describe.

Examiners, Mr. KIERNAN and Dr. R. B. TODD.

1. Describe the crural canal. What are the varieties in the origin and course of the obturator artery, and what are the occasional relations of this vessel to the inner portion of the superior aperture of the canal?

2. State all the parts which are successively brought into view in dissecting an intercostal space from the skin to the pleura. Give their relative positions, and describe the intercostal muscles.

3. Describe the fundus of the bladder, and its relations to other parts, with reference to the operation of puncturing the bladder from the rectum.

4. What are the reasons for believing that the lymphatic vessels are absorbents?

5. Describe the origin and course of the first dorsal nerve as far as its junction with the brachial plexus. State the principal experiments which have been performed with the view of ascertaining the functions of the spinal nerves, and the conclusions derived from these experiments.

6. Enumerate the several parts of the organ of hearing in man, in the order of their relative importance. Describe the most important part, and state the reasons for considering it essential to the perfection of the sense.

7. Describe the origin, course, and distribution of the hypoglossal nerve, and the distribution and functions of the other nerves of the tongue.

Tuesday Morning, 10 to 1.

CHEMISTRY.

Examiner, Professor DANIELL.

1. What is meant by a degree of temperature upon Fahrenheit's scale? and how does it differ from a degree upon the centigrade scale?

2. Define and illustrate the theory of latent heat with reference to ice, water, and steam; and state the manner of obtaining fixed points for the graduation of thermometers.

3. Explain the phenomena of "single elective affinity" and "double elective affinity," and illustrate them by examples.

4. Illustrate the meaning of the term "chemical equivalents" by example; and state the equivalents of the non-metallic elements upon the hydrogen scale.

5. Name the principal hydro-acids; state their equivalent numbers upon the hydrogen scale; and explain their action upon metallic oxides.

6. Explain the process for obtaining cyanogen; and describe its constitution and properties.

7. What is the constitution of carbonic acid? of carbonic oxide? of oxalic acid? Explain the action of concentrated sulphuric acid upon the latter.

8. Describe the general process for organic analysis, and explain the principles upon which it is founded.

Tuesday, July 2.—Afternoon, 3 to 6.

BOTANY, MATERIA MEDICA, AND PHARMACY.

STRUCTURAL AND PHYSIOLOGICAL BOTANY.

Examiner, Professor HENSLOW.

1. Explain the structure of Exogenous and Endogenous stems.

2. Describe fully the several parts of the stamen.

3. How do you distinguish between angulinerved and curvinerved leaves; and in which classes do they respectively predominate?

4. What are the normal characters of the fruit of Cruciferæ and Umbelliferæ?

5. Describe the stomata and their functions.

6. Explain the functions of respiration in plants.

7. What are the phenomena observed during the fertilization of the ovule?

8. Enumerate some of the chief means by which the dispersion of seeds is effected.

9. What are the stimulants necessary to secure the germination of seeds? and what the successive steps in this process?

Tuesday Afternoon, 3 to 6.

MATERIA MEDICA AND PHARMACY.

Examiner, Mr. PEREIRA.

1. Enumerate the officinal substances

ordinarily used as emetics. Specify the peculiarities attending the operation of each, and the maladies for which each is specially adapted.

2. To what part of the classification of Cuvier does *Cantharis vesicatoria* belong? What are the effects of this insect? In what maladies is it used? Enumerate its officinal preparations, with their doses.

3. State the chemical characteristics of good cinchona bark. With what substance is iodide of potassium frequently adulterated? How is the fraud recognised? With what substance is calomel liable to be contaminated, and how is the contaminating matter recognised and removed?

4. Briefly describe the botanical characters of *Momordica Elaterium*. Mention the Natural Order to which this plant belongs; also in what part of the Sexual System of Linnæus it is placed. Describe the method of preparing elaterium. What are the effects of this substance? In what maladies is it used? What is its medium dose?

5. What are the products of the reaction of sulphuric acid on ferrocyanide of potassium in the process for making *Acidum Hydrocyanicum Dilutum*, Ph. Lond.? How is the strength of diluted hydrocyanic acid determined? How would you treat a case of poisoning by this acid?

6. On what ingredient do the medicinal qualities of the mineral waters of Tunbridge Wells depend? In what classes of complaints do you consider these waters advantageous?

7. In what diseases is electricity employed? How would you apply it?

8. What are the primary effects of the cold bath? In what cases is its use admissible?

9. What are the effects of strychnia? In what diseases has it been used? What are the indications and contra-indications for its employment? What is the medium dose of it?

CASE OF POISONING WITH OPIUM.

By M. Moure, Druggist.

On the 4th of May last, Miss J——, aged 18, having been crossed in love, swallowed a liniment fasting, the prescription for which has been lost; but from the little I saw at the bottom of the phial, I presumed that it was composed of about a drachm of Rousseau's laudanum, and an ounce and a half or two ounces of oil of sweet almonds. I was called in two or three hours after it had been swallowed. I found the patient in a state of drowsiness, which was interrupted only by the pain caused by the twitching of the tendons; her pulse was very full, and very irregular. When I attempted to put questions to her, she answered, that there could be no happiness for her on earth, and that she wished to die; so I assured her that she had not taken enough poison, that she would suffer horribly, and perhaps feel the effects all her life, but that she would not be able to die by it. "Well," said she, "give me any thing you like." Accordingly, I had a decoction made with two gall-nuts bruised; and, while it was making, I administered two drachms of sulphate of zinc, and then a cup of decoction of gall-nuts, and several cups of tepid water, but without any result: the patient suffered much. A quarter of an hour afterwards, I made her take ten more drachms of sulphate of zinc, and immediately afterwards a second cup of luke-warm decoction of gall-nuts. In a few minutes vomiting came on, and I gave her five more drachms of the sulphate of zinc, and a third cup of decoction of gall-nuts. I obtained on the whole four vomitings, and several cups of lukewarm water were given during the intervals, to encourage them.

I administered only three small cups of the decoction of gall-nuts, lest an excess should redissolve the precipitate formed at first. I employed the sulphate of zinc in preference to tartar emetic, because the latter would have been decomposed by the opiate. The patient being very thirsty, I gave her very strong coffee, without milk, to drink, and she took twelve or fifteen cups.

After the vomiting the patient was very tired, and complained of pain in the head, and lassitude all over the body. The pit of the stomach was painful even on slight pressure. I ordered a half enema, containing an ounce of sulphate of soda, which caused slight colic. Half an hour afterwards I administered another one, without sulphate of soda; and this produced the evacuation of the first, with but little fæcal matter. The pulse continued irregular, and the patient experienced shiverings in every part of the body, alternating with insupportable heat. Towards the evening the pit of the stomach and the head became more and more painful. I saw that it was necessary to take blood; but I had done enough on my own authority. With some difficulty I persuaded the parents to send for a physician. M. Rogiet was called in, and recommended the application of twenty leeches to the epigastrium, and another half enema, containing an ounce of sulphate of soda, and advised the coffee to be continued, only less strong. The leeches were put on at

half-past ten in the evening; at eight the following morning the bites were still bleeding; a linseed poultice was put on, gum water, &c. given for drink, and other antiphlogistic remedies were ordered to relieve the irritation of the stomach. The patient continued to improve, and is now well.—*Gazette des Hôpitaux*, June 6th, 1839, from the *Hygie*.

According to the French Codex, twenty drops of Rousseau's laudanum weigh twenty-two grains; hence a drachm by weight (or seventy-two grains) will be equal to rather more than sixty-five drops. Now the Codex says, that twenty drops of this laudanum are about equal to two grains and a half of extract of opium; and therefore, if M. Moure is right in his conjecture, the patient took a dose equal to $8\frac{1}{4}$ grains of extract of opium.

The symptoms of irritation seem to have arisen from the treatment, which certainly erred on the side of vigour. Seventeen drachms of sulphate of zinc are no trifle; and a dozen or fifteen cups of French coffee will do any thing but quench thirst. Coffee, indeed, is recommended in cases of poisoning by opium, but not, we fancy, in such colossal doses. This was a case well suited for the stomach pump; but the instrument is little known in France.—*Translator*.

DISCOVERY OF MUSCLES WHICH ROTATE THE DORSAL VERTEBRÆ

(ROTATORES DORSI) IN MEN AND MAMMALIA.

By Prof. Theil, of Bern.

The rotatores dorsi are muscular fasciculi situated beneath the multifidus spinæ, and separated from its fasciculi by cellular tissue. They are found only in the dorsal portion of the spine, and are usually eleven in number on each side. They arise from the transverse processes of the dorsal vertebræ, from the second to the eleventh, and each is attached by fibres running transversely inwards, to the arch of the vertebra next above that from which it arises. Each muscle, covered by the multifidus spinæ, is fixed by short tendinous fibres to the upper edge and posterior surface of the transverse process, and by fleshy fibres to the lower edge, and in part to the posterior surface of the arch, up to the base of the spinous process. The muscles have not all the same size; the lowest are largest, except the eleventh, which is small. The uppermost generally passes from the transverse process of the second dorsal vertebra, over the first, to the arch of the seventh cervical.

Professor Theil has discovered perfectly analogous muscles in the dorsal portion of the spine in several species of quadrumana, carnivora, and rodentia.—*Müller's Archiv*, Heft ii. 1839.

FORMATION OF AN ARTIFICIAL ANUS,

BY OPENING THE DESCENDING COLON WITHOUT PENETRATING THE PERITONEAL CAVITY.

By M. Amussat.

A lady, in Paris, æt. 48, long subject to obstinate constipation, sometimes preceded by hæmorrhage from the rectum, had vague pains in the pelvis and the lumbar region. Nothing, however, could be discovered further than a slight affection of the uterus, polypous excrescences of the urethra, and an old crural hernia on the right side.

She enjoyed good health for some time in the country, but on the 13th of May last returned to Paris, having suffered for eight days from obstinate constipation. On the 29th M. Amussat was called in, the constipation still continuing. The rectum was found completely empty; but there was an obstacle above it, probably from a tumor in the pelvis, which no injections, nor any other mechanical means, could overcome. On the 2d of June, the constipation having existed twenty-four days, the tympanitis increasing, and the patient suffering intolerable pain, and earnestly requesting an operation, it was decided on and performed with the assistance of MM. Breschet, Recamier, &c.

The patient being laid on her face, a transverse incision was made over a prominence which was distinctly visible on the left flank, two fingers' breadths above the crest of the ilium, and extending from the outer edge of the sacro-lumbalis to the middle of the crest of the ilium. The several layers of muscle and fascia were divided till the adipose tissue immediately covering the intestine was exposed; this was then cut through, and two threads were passed through the walls of the intestine, at each end of the wound, to retain it and prevent it from collapsing. Having clearly exposed the colon, of which a large space was uncovered by peritoneum, a fine trocar was plunged into its most prominent and distended part, and gases and fluid fæcal matter escaped through the canula. Immediate ease followed. A probe-pointed bistoury was passed in by the side of the canula; and when the aperture in the intestine was

increased in both directions, gas and fæces flowed out in abundance. The patient expressed the greatest relief, and her countenance lost all its anxious expression, and its livid hue. The intestine was washed out with injections, and the edges of the opening in it were attached to those of the wound in the abdominal walls by four sutures.

The consequences of the operation were in no respect unfavourable. Sixteen days after it the patient was perfectly well, and had returned to her usual habits, and every thing induced her attendants to hope that, as far as the tumor in the pelvis, from which the intestinal obstruction arose, would permit, her recovery would be permanent. — *Comptes-Rendus, Juin* 17, 1839.

VACCINE LYMPH.

To the Editor of the Medical Gazette.

Sir,

About the middle of last March I received a supply of vaccine lymph from the National Vaccine Establishment, and with it vaccinated six children. On the second day the arms shewed active inflammation where the matter was inserted, which ran on to the fourth day, the pock or pustule going on with great rapidity, so that on the fourth day it put on the semblance of a vaccine pustule of the tenth day. On the twelfth day a secondary eruption of small pustules broke out over the region of the shoulder, the children at the same time suffering from irritative fever. Not having experienced such results before, I became sceptical as to its protective power. Accordingly, three weeks after the eruption had subsided, I obtained some vaccine lymph from a pustule of the eighth day, that had undergone the usual phasis. The vaccine disease in the six children passed through the natural stages, precisely as if they had not been vaccinated. Probably it is not out of place to inquire whether Mr. Estlin, of Bristol, has proved by re-vaccination the power of the active lymph which he has recently used?

I remain, sir,
Yours most respectfully,
John Grantham.

Crayford, Kent,
July 8, 1839.

ERGOT OF RYE IN PROTRACTED LABOUR.

To the Editor of the Medical Gazette.

Sir,

If we may judge from the numerous discussions which continue to appear, the degree to which the ergot of rye is entitled to the confidence of the profession is any thing but settled.

Since I have commenced taking notes of my midwifery practice I have attended 420 cases, in 80 of which I have administered the ergot. Of these 80, the effect in 47 cases was very beneficial and very marked, while in 33 cases no appreciable effect whatever resulted.

As to the child, I find that in the 420 cases (producing 422 children) there have been delivered 26 still-born children, and five bearing marks of having died long prior to labour, making in the whole 31 dead children, of whom seven had only reached the seventh month. But in 80 of these cases the ergot was given; and among these there were 10 still-born children, and one who had died prior to its employment; while in the 340 remaining births there were but 16 still-born, and four who had died prior to labour.

Although I do not presume to offer the above observations, so insignificant in point of numbers, as doing more than very slightly contributing to the division of the question; yet, as every man's practice is more or less guided by his own personal experience, I may observe, that in future I shall be more circumspect in the employment of this medicine; seeing that the cases in which I have employed it with undoubted advantage amount to little more than half the number in which it has been given, while the number of still-born children is so much increased.

Even such a trifling statement as the present, shews me the utility of every medical man keeping and occasionally consulting a record of his cases. For so striking are the benefits sometimes derived from the ergot, that they are apt to leave an undue impression upon the memory; and I could never have imagined, by trusting to my recollection alone, but that it had been successful in a much greater proportion.—I am, sir,

Your obedient servant,
John Chatto.

Leigh Street, July 7, 1839.

DEATH FROM PUMPING AIR INTO THE EUSTACHIAN TUBE.

To the Editor of the Medical Gazette.

Sir,

Having observed, in your remarks upon the case of Joseph Hall, in your last number, in which it is said, "Mr. Lyon not being, we suppose, a medical practitioner," p. 538, will you have the goodness to correct this in the forthcoming number. I have been a member of the Royal College

of Surgeons of London since the year 1823.—I have the honour to be, sir,

Your obedient servant,

T. Lyon.

25, Montague Street,
Russell Square, June 9, 1839.

To the Editor of the Medical Gazette.

Sir,

Much misapprehension has arisen from a recent occurrence which I deeply regret should have happened under my roof. I allude to the death of Joseph Hall, on whom an operation was performed by Mr. Lyon, a surgeon, formerly, but no longer, residing with me; if (as I conceive it does) his being daily in my house from early morning until nine or ten at night constitutes a residence. With regard to that operation, I have only to repeat I had nothing to do with it. I did not authorize it—I was not cognizant of it—nor was I made acquainted with the result until three hours had elapsed. With regard to the case of Mr. Wm. Whitbread, which has been referred to in connection with the foregoing, I beg to say, that, to my knowledge, I never saw that individual, and certainly never performed on him any operation whatever; to which may be added, that a verdict of "Natural Death" was returned by the jury; thereby disconnecting the cause of his decease from the operation which Mr. Lyon had performed on him several days previously.

I am, sir,

Your obedient servant,

A. Turnbull.

48, Russell Square,
July 10, 1839.

COLLEGE OF SURGEONS.

GENTLEMEN WHO HAVE RECEIVED THEIR DIPLOMAS.

June 1839.

Wm. E. Pope, Chippenham.—W. W. Wigglesworth, Wortley, Yorkshire.—W. Walker, Lisbon.—W. Scowcroft, Bolton-le-Moors.—E. Andrews, Windsor.—John Davies, Brompton, Middlesex.—W. Mitchell, Coote Hill, Cavan.—F. J. M'Dougall, Oxford.—J. H. Freeman, Spring Gardens.—J. Graham, Pelton, Devon.—Bartholomew Stephens, Balyshannon.—T. R. Clarkson, Richmond, Yorkshire.—H. Appleton, Elstead, Surrey.—W. Crozier, Oxford.—P. B. Sleeman, Truro.—J. Randles, Farndon, Cheshire.—John D. Wrangham, Wragby, Lincolnshire.—T. Rogers, Dublin.—B. T. Hodge, Sidmouth.—J. Macpherson, Aberdeen.—G. H. Mantell, Farringdon.—J. Murphy, Clones, Monaghan.—C. W. Fennell, Brighton.—T. Mahony, Ardfert, Kerry.—J. Mangan, Tallow, Waterford.—William R. Babington, Dublin.—G. C. Rigden, Maidstone.—H. T. Normansell, Ceylon.—F. J. Beardmore, Nottingham.—J. Sykes, Hull.—F. Prince, Ledbury.—Philip H. Weston, James Street, Bedford Row.—George A. Falconer, Arbour Terrace, Commercial Road.—R. R. Dowse, Dublin.—Isidore M. Blake, Galway.—David H. M'Adam, Dublin.—W. Bowman, London.—F. J. West, Dublin.—Peter J. Thompson, Newcastle-upon-Tyne.—W. C. T. Wagstaffe, Long Lane, Southwark.—E. T. Higgins, New Zealand.—C. F. Elcum, Blackfriars Road.—W. H. Brewer, Newport, Monmouthshire.—Harvey H. Owen, Camberwell.—E. H. Hills, Maidstone.—W. R. E. Smart, Devonport.—W. G. Rudland, Dartmouth.—G. J. M. M'Kenzie, Dublin.—M. Donoghoe, Kellishandra.—J. W. Courtney.—M. A. Durant, Bengal.—T. Purnell, Bristol.—R. Atkyns, Mallow.—H. Powell, Falcon Square.—W. R. M'Laughlin, Ramelton, Donegal.—J. Hillman, Bewdley.—W. Arden, Gresham.—H. Symes, Bridgewater.—J. Newton, Margate.—R. O. Davidson, Grafton Street, East.—H. Irwin, London.—J. Hopgood, Bishopsgate Street.—T. B. Burton, Australia.—J. J. Purnell, Shepton Mallet.—J. J. Wright, Stamford Bridge, Yorkshire.—J. Churchill, Chertsey, Surrey.—R. L. Freer, Stourbridge.—W. Peacock, Tralee, Kerry.—W. Jardine, Leatherhead.—J. Bennett, Plymouth.—J. R. Sampson, Hailsham, Sussex.—J. Reid, Aberdeen.—J. R. Stedman, Guildford.—J. Evans, Dolgelly.—W. Armstrong, Great Ormond Street.—F. R. Dain, Cottesmore, Rutland.—E. R. Perks, Bath.—J. H. Rothney, London.—J. Teevan, Princes Place, Kennington.—W. Hurst, Monaghan.—E. Saunders, Argyll Street.—Joel Wilkins, Honiton.

WEEKLY ACCOUNT of BURIALS.

From Bills of Mortality, *July* 9, 1839.

Age and Debility	14	Heart, diseased	2
Apoplexy	2	Hernia	1
Cancer	1	Inflammation	5
Childbirth	1	Bowels & Stomach	3
Consumption	31	Lungs and Pleura	3
Convulsions	21	Influenza	1
Croup	1	Insanity	2
Dentition	1	Liver, diseased	1
Dropsy	9	Measles	14
Dropsy in the Brain	3	Mortification	1
Erysipelas	1	Paralysis	2
Fever	11	Stricture	1
Fever, Scarlet	4	Unknown Causes	53
Fever, Typhus	3		
Hæmorrhage	2	Casualties	6

Increase of Burials, as compared with the preceding week . . . 30

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

July.	Thermometer.		Barometer.	
Thursday 4	from 49	to 73	30·12	to 30·16
Friday 5	50	73	30·11	30·04
Saturday 6	54	79	29·96	29·87
Sunday 7	56	75	29·81	29·68
Monday 8	56	65	29·58	29·64
Tuesday 9	51	66	29·65	29·75
Wednesday 10	47	64	29 88	29·90

Prevailing wind, S.W.

Except the evening of the 7th, 8th, and 10th, generally clear; rain fell on the 8th and three following days.

A violent storm of thunder and vivid lightning in all parts of the compass, accompanied with rain, from about half-past 8 P.M. till about midnight of the 7th.

Rain fallen, ·125 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JULY 20, 1839.

LECTURES
ON THE
CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT
OF
CALCULUS,
AND THE VARIOUS DISORDERS OF THE
URINARY SYSTEM.

By Dr. Venables.

Cystic Oxide Diathesis—continued.

The case which occurred to Dr. Prout was sent to him by Sir A. Cooper, to have the nature of a stone he had lately passed from the kidney astertained. He was about 30 years of age, had been subject to urinary diseases since 1818, and, in consequence of severe cold, was seized with severe pain, accompanied by inflammation of the kidneys. Six months afterwards he first observed retention of urine, apparently from a calculus in the bladder. In 1820 a calculus was extracted, weighing upwards of two ounces, and was supposed to consist of oxalate of lime. The small calculus, which was the subject of investigation, was passed about a fortnight before, with considerable pain—passed down from the left kidney, and consisted of pure cystic oxide. Since that period he had been taking alkalines, and which appeared to ease the pain in the back more than any thing else. Dr. Prout states the properties of the urine as follows:—

"The urine voided in my presence about five P.M. was copious, of a yellowish green colour, and strong peculiar smell. Its specific gravity was 1·020; and almost immediately on being passed, a greasy-looking film was found on the surface, and at the same time rather a copious pale-coloured precipitate appeared, and the urine became alkaline. This film and sediment consisted chiefly of the triple phosphate of magnesia and ammonia, mixed with a little of the cystic oxide. There was very little urea, and hardly a trace of lithic acid was perceptible on the addition of an acid.

"The urine passed the next morning early (all medicine having been in the meantime omitted) was more remarkable, and characteristic, I presume, of this affection. Its colour and appearance were much the same as the above, except that the former was a little deeper, and the peculiar smell stronger. It very faintly reddened litmus paper, and its specific gravity was 1.022. There was a slight deposition on standing for some time, consisting of a mixture of the cystic oxide with a little of the triple phosphate. A considerable proportion, however, of the cystic oxide was precipitated from the urine on the addition of acetic acid, which, of course, held at the same time the phosphates in solution.

"This gentleman seemed strong and robust, but was liable to affections of the stomach, which appeared to arise, in part at least, from sympathy with the derangement of the kidney. What is remarkable, he stated that he had a twin brother likewise subject to urinary affections, but of what kind has not been ascertained*."

The case which occurred to myself is detailed at length in the Journal of the Royal Institution, and therefore I must refer you to that work for fuller particulars. The following, however, is a general outline of the circumstances of the case:—The patient, Mrs. Day, aged 47, a labourer's wife, stout, corpulent, and to all appearance in rude health, living at Mashbury, near Chelmsford, in Essex, was first seen by me on the 28th June, 1828, in consequence of my having discovered the nature of the calculus, the half of which I now present to you. It weighed when entire eighteen grains, is of a dull whitish appearance, and the external surface was studded with

* On Diabetes, pp. 166, 167.

a few white shining crystals of triple phosphate. Sawn through, it seemed of a waxy nature, but somewhat firmer in consistence; clogged the teeth of the saw as a waxy substance would do. You see that its internal structure is not laminated, but seems a confused homogeneous crystalline mass; its sp. gr. 1·714285. Before the blowpipe it gave out a peculiar fœtid animal odour, but quite different and distinct from that of the lithic acid so treated, leaving an ashy, black, spongy residue. These properties were developed by heating a small portion on platina foil over the spirit-lamp, without the aid of the blowpipe; but urged by the blow-pipe, it ultimately left a white ash. The general chemical properties have been already enumerated. It was soluble in the sulphuric, nitric, and hydrochloric acids—in caustic potass, soda, and ammonia—and in the carbonates and bicarbonates of the former. In the caustic alkalies it dissolved with slight effervescence. From its solutions in the acids it was precipitable by alcohol and ether, but most abundantly by the neutral carbonate of ammonia. From its alkaline solutions it was precipitated by the acetic, citric, and tartaric acids. Therefore, in precipitating it from the urine, if alkaline, we should use the acetic acid, because this acid will hold the phosphates in solution; but if acid, then alcohol, or the neutral carbonate of ammonia, is the preferable precipitating reagent. It dissolved in nitric acid with very slight effervescence, and the solution, evaporated to dryness, left a whitish residue.

On the 30th June a specimen of this urine was brought to me. It was passed in rather large quantity. It was of a yellowish green colour, something like the rind of a melon when nearly ripe. The smell very peculiar, indeed something like that of the sweet-briar, tainted with a fœtid, urinous, animal odour. Its taste was very slightly saline; its appearance was oily looking, somewhat resembling that of oil of vitriol, or perhaps more closely that of sherry wine. It was turbid, apparently from the suspension of an impalpable powder. On being left at rest for a considerable period, a pulverulent mass, enveloped in a kind of gelatinous-looking substance, formed; and separated by filtration, and examined, was found to contain a large proportion of the cystic oxide; specific gravity of the urine 1·022; it faintly reddened litmus paper. On being allowed to stand for several days, no further decomposition ensued, nor did the urine become alkaline. No precipitate was thrown down from the filtered portion on the addition of acetic acid or spirit of wine; but carbonate of ammonia threw down some cystic oxide. A film of the triple phosphate formed on the surface, and the triple crystals attached themselves to the sides of the jar.

This urine was very deficient in urea; not a particle crystallized on the addition of nitric acid to the urine evaporated down to less than one-half, and even to the consistence of a syrup. Lithic acid was not precipitated on the addition of an acid, even when the urine was concentrated by evaporation. This principle, however, was not wholly absent, as when evaporated to dryness, and acted on by nitric acid, and then dried, a carmine reddish stain was produced, which assumed a sort of purplish hue by the vapour of ammonia being admitted to it when slightly moistened. I had several opportunities of examining the urine in this case, and it exhibited the same general properties. Those who wish for a fuller explanation are referred to the case as originally published in the Journal of the Royal Institution.

From the examination of cystic oxide calculi, their great purity, and non-intermixture with the other principles of the urine, may be readily understood from the properties already detailed. Dr. Marcet remarks, that this diathesis exerts a more exclusive tendency than any other. Dr. Prout observes, "This observation seems to be confirmed by the examination of the urine above given, in which the absence of the lithic acid was remarkable. Like the other two species of urinary concretions, however, it may be evidently followed by the phosphates, as appears from one of the specimens of calculus above described, and also from the examination of the urine, in which the tendency to the deposition of the phosphates had been evidently produced by the use of alkaline remedies. This diathesis, like the mulberry, may also be followed by the lithic acid diathesis, as happened in one of the instances given by Dr. Wollaston, above quoted. Dr. Henry also mentions an instance of a lithic calculus having a nucleus of cystic oxide*."

When we consider all the circumstances—the general tendency to nephritic inflammation, the phlogistic diathesis, and the other phenomena, we cannot entertain any very favourable opinions respecting this disease. In most of the cases where the history could be traced, the disease seemed to be complicated with a diseased state of kidney, of which it was either the cause or the consequence; and in all, as remarked by Dr. Prout, an inveterate disposition to urinary disease, apparently inherited, was evident. In the case which I have just detailed, although the woman in appearance was lusty and in good health, yet she was very subject to

* On Diabetes, pp. 168, 169.

inflammatory affections, and sometimes would pass several small cystic oxide concretions united together by a sort of flat tape, as it were; but which, probably, was nothing more than flakes of fibrin thrown off by inflammation, and subsequently coagulated.

Treatment.—With respect to this part of the subject I can advance but little. However, evidently it must be regulated by circumstances. Great attention ought to be paid to the digestive functions, and the inflammatory tendency counteracted by regimen and mild means. The conditions of the urine, too, ought to be attended to; and if the urine be acid, we may prescribe the alkalies in moderate doses; if alkaline, the hydrochloric acid may be given with advantage. Dr. Prout, indeed, thinks, that if the irritation present would permit, the hydrochloric might in all cases be employed advantageously, not only with the view of holding the cystic oxide in solution, but of inducing the lithic acid diathesis.

In prescribing alkalies we should recollect how readily the urine may be rendered alkaline, which is not only very dangerous in diseased states of the urinary organs, but is also capable of inducing such. Upon occasions I found it necessary now and then to give some alkaline remedies to Day, but I generally then gave the citrate of magnesia*, mentioned in one of my former lectures.

Colchicum and the salts of morphia will be found useful in allaying the irritation of the urinary organs, and of the system in general; and perhaps the pills formerly mentioned would be found useful in this way. Cupping the loins, or drawing blood by leeches, sinapisms to the lumbar spine, issues and setons, of course present themselves as remedies that would be likely to prove serviceable. Fortunately, however, this disease is so rare, that probably we shall not often be called upon to devise means for its relief or cure.

Phosphatic or earthy diathesis.—A deposition of the insoluble phosphates is very rarely indeed an original disease, but frequently succeeds to the deposition of lithic acid or oxalate of lime. Therefore it would appear to be, as it were, the ultimatum of all the other forms of urinary gravel. The transition, however, from the original diseases is not sudden or abrupt, but a gradual process, during which the urine undergoes some very remarkable changes. From the observations already made, and from the dissection of calculi, we found that the urinary phosphates mostly had nuclei of some of the other forms of sediment—as the lithic acid, oxalate of lime, &c.; therefore it will probably be the better plan to consider the changes in the urine during the transition from the other diatheses to this.

Change from the lithic to the phosphatic diathesis.—We have already shewn that, in the lithic acid diathesis the urine is high coloured and remarkably transparent, free from cloud or sediment; but when this change is setting in, the urine becomes pale, and often its quantity is much increased, and its specific gravity reduced. At the same time, the lithic amorphous sediments are copiously deposited from the slightest causes. These sediments are for the most part of a pale colour, and, if examined, are found to be much more abundantly intermixed with the phosphates, and the quantity of the latter will often denote the progress which has been made towards the perfect completion of the phosphatic diathesis. The urine, too, generally abounds in urea; at all events, the proportion of this principle greatly exceeds that of health, insomuch that if the quantity be not very inordinate, crystals soon shoot forth on the addition of nitric acid, but almost always on a moderate concentration of the urine. As this stage advances, it will be observed that the urine, on standing at rest for some hours, becomes covered on the surface with a thin iridescent film, which, if removed by a lamina of platinum, and examined, proves to be the ammonio magnesian phosphate. In this stage also, the urine, if allowed to remain, much more speedily undergoes decomposition, especially in warm weather, and becomes as it were putrid, assumes an opaque yellowish colour, and shining spicular crystals, of the triple phosphate, shoot out. Dr. Prout has seen them half an inch in length, in urine not remarkably unhealthy, which had been allowed to stand for a great length of time, and to grow putrid. At this period, too, a calculus may even exist in the bladder; an instance or two of which occurred to Dr. Prout, and their examination, when extracted, proved them to consist of pale-coloured lithate of ammonia, nearly pure.

Such a condition of the urine often occurs in sickly emaciated children, whose digestive organs are much out of order. At dispensaries and hospitals such instances are constantly occurring. Here is a specimen of urine from a case of this sort, from which you may readily obtain a

* Mr. Dinneford, of New Bond Street, has lately called my attention to a preparation of his own—namely, a solution of bicarbonate of magnesia. An ounce of a sample with which he favoured me a few days since yielded, on evaporation, about eighteen grains and a half of hydrated carbonate of magnesia. Three or four ounces of this solution, with a tea-spoonful or two of the acidulated syrup which accompanied the sample, formed an excellent and agreeable effervescing draught; and I think this preparation of magnesia might be both agreeably and advantageously used in some of the forms of urinary diseases, where a neutralization of the urine is desirable.

notion of its general characters and properties. It is apt to be induced in persons of an irritable constitution, and whose urine is apt to deposit lithic sediments, by the general causes formerly specified, or from the various derangements of the general health, or from local irritations of the urinary organs. In such, also, the individuals are mostly of an irritable habit of body, and are much subject to derangements of the digestive functions; and there is generally some uneasiness felt about the lumbar regions, more especially in adults. At this period it can, for the most part, be controlled or kept in check, provided care be taken to avoid all the exciting causes, and attending strictly to the means necessary for its relief; but if these be neglected, the phosphatic diathesis will be inevitably established, especially if there be already a calculus in the bladder.

After some time, the urine undergoes a still farther change, and assumes a pale wheyish colour. It is neutral when voided, speedily becoming alkaline, and not unfrequently is alkaline even when first voided. We now find that the quantity of the lithate of ammonia diminishes or perhaps disappears altogether, while the urea is more abundant. But the most remarkable change is, that the quantity of the phosphates, especially of the ammonio-magnesian, is greatly increased. In truth, this stage may be considered as but a minor degree of the more confirmed phosphatic diathesis, for it runs into this latter so gradually and imperceptibly that no real or distinguishing line of separation can be drawn.

Change from the oxalate of lime to the phosphatic diathesis.—We have seen that calculi, in some cases, consist of the phosphates deposited upon a nucleus of oxalate of lime. The first change is, that the urine, if examined, will be found to contain an unusual proportion of lime. As the quantity of lime increases, the quantity of phosphoric acid also increases, while that of the oxalic acid diminishes; and at last phosphate of lime, which, in fact, formed the external covering of a calculus of this sort. With respect to the state of the urine, it may be presumed that it will undergo somewhat similar changes, so far as compatible, to those attending the transition from the lithic acid to the phosphatic diathesis. In the oxalate of lime the urine is acid, but as it changes to the phosphates it gradually becomes neutral; becoming at last alkaline, and, in fact, presenting the usual characters of phosphatic urine.

Change from cystic oxide to the phosphates.—Little can be offered upon this subject, instances of which are so rare. In the example mentioned by Dr. Prout, the urine had a tendency to alkalescence, from the internal use of alkaline remedies, and the ammonio-phosphate of magnesia was found intermixed with the cystic oxide. However, the above can only be regarded as an artificial condition; for in the case which I met with, the urine had an acidulous re-agency. But, from what we know, we may conclude that the urine, in such a change, assumes pretty nearly similar characters to what it assumes in the transition stages from the other diatheses to the phosphatic.

After the urine has continued in the condition we have noted for a period of time the length of which will depend upon various modifying causes, the phosphates begin to be deposited in a more decided and unequivocal manner. These, like the lithic deposits, may occur under two distinct forms—that is, it may appear either as crystallized gravel or as an amorphous sediment. In the case of the lithic diathesis, however, the amorphous sediments, compared with crystallized lithic gravel, is a mild affection, and of little consequence; but in the case of the phosphates, the amorphous is a much more formidable appearance, and the crystallized phosphates is comparatively a disease of a much milder character. As the analogies, therefore, between the lithic phosphatic diatheses seem in this respect to be completely subverted, we may commence, as in the lithic case, with the consideration of the milder form of disease—the crystallized phosphates.

1. *Of the crystallized phosphatic sediments.*—These always consist of the ammonio-phosphate of magnesia*, and have a white shining or glistening appearance. These frequently alternate with sediments consisting of pale-coloured lithate of ammonia, or even may be accompanied with the above or the amorphous fusible phosphates. The general symptoms consist of derangements of the primæ viæ, various forms of nervous irritation, a sense of lassitude or weariness, and indisposition to any exertion. There is also pain and uneasiness in the loins and back, more particularly in the region of the kidneys. The urine is, for the most part, pale-coloured, of a saline taste, nor is it of the usual aromatic odour of healthy urine. Its quantity is often abundant, and its colour then is paler; but if the quantity be less, its colour is deeper and the odour more sensible. The specific gravity varies with the quantity: if the urine be scanty, the spe-

* Dr. Prout states, that he has once or twice seen a crystallized compound, consisting of the mixed or fusible phosphates. "If I am not mistaken (he says), I have once or twice seen a crystallized compound of the triple phosphate of magnesia and ammonia, and the phosphate of lime. These crystals were much larger than those of the triple phosphate, and less distinctly formed.

cific gravity is high, from 1·026 to 1·030; but when passed in large quantity, the specific gravity will, perhaps, not exceed 1·010 or 1·015, and probably may be even less. Upon standing for some time, an iridescent film, such as you see here, forms upon the surface; and you will often find that persons will tell you, under these circumstances, that their urine has the colour of the rainbow; which appearance depends upon the refraction and decomposition of the light, and evolution of the prismatic colours, by the film of triple crystals of which this pellicle consists. After a time, also, small minute crystals attach themselves to the sides of the jar in which the urine has stood, and they form much sooner if the sides of the jar have been previously rubbed or scratched, and to which portion of the jar they attach themselves in preference, as you see in the instances before you.

Urine of this description also abounds in urea, which, as you see here, soon crystallizes on the addition of nitric acid. It is in such cases that the specific gravity is high, and the quantity of urine comparatively small; but even when the quantity voided is large, and the specific gravity low, yet the proportion of urea much exceeds the healthy standard, for if the urine be concentrated, a little nitric acid causes the crystallization to take place; or the urea collected will be found to greatly exceed the healthy proportion. If potass or any other neutralizing agent be added, the ammonio-magnesian phosphate precipitates abundantly.

When the triple salt exists in very large quantity in the urine, the crystals separate before the urine is voided, and are found already existing when it is first discharged from the bladder, and immediately sink to the bottom of the vessel. The urine in such intances, will, if examined, be found to have an alkaline reagency, even when first voided; but in general, however, the crystals do not begin to form till the urine has become cold, or not even till it begins to putrefy. The length of time which elapses between the passing of the urine and its becoming cold, may be considered in some degree an index, as it were, of the degree of severity of this affection.

The causes which induce a superabundance of this salt in the urine, are the various causes which act upon the nervous system. Thus mental emotions of every description will often induce an excess of the above principle. The same may be said of many articles of food; various diuretic medicines; and especially those salines formerly mentioned as tending to produce an alkaline condition of the urine, together with diuresis. In irritable habits, mercury will often induce an excess of the triple salt, and even of the mixed phosphates, and will even lead to their deposition from the urine before it leaves the bladder. The slighter causes will produce little or no effect, except upon those who are greatly predisposed, or are subject either to this or some of the other diseases of the urinary organs. But in persons who have long suffered from a bad state of health, or in whom the health is much impaired, and the constitution, as it were, broken up, this salt will be found either actually existing in excess, or an excess of it may be easily superinduced.

It has been remarked, that children are much more subject to such a deposition than adults, which may probably be referred to the greater irritability of that age, and the more frequent derangements to which the digestive functions are exposed at that period of life. Children of a scrofulous diathesis, with tumid abdomens, frequently suffer from this, or more, perhaps, from the other variety, the deposition of amorphous sediments consisting of the mixed phosphates; or sediments consisting of an unnatural proportion of lime, combined with carbonic acid.

When these phenomena occur but seldom, and but occasionally from the causes above enumerated, their duration is generally but short, and the disorder soon goes off, and is of but little moment. But when occurring in more advanced life, and complicated with organic disease of the urinary organs, or that there is an habitual recurrence of the symptoms from very slight causes, the danger is proportionally greater, that the disease may become permanent, and perhaps not easily to be eradicated.

2. *Of the amorphous phosphatic sediments.*—These always consist of the mixed or fusible phosphates, that is, the ammonia-phosphate of magnesia with the phosphate of lime. The proportions, however, of the two salines differ in different cases. In some instances the phosphate of lime predominates very much indeed over the other principle. When this is the case the disease is of a much more decided and severe character, and generally indicates organic disease of the mucous lining, and generally of all the coats of the bladder. Indeed, many believe that the phosphate of lime is principally, if not wholly, derived from the mucous coat of the bladder; but still a great proportion is often derived from the kidney itself. When, however, there is an unusually large proportion of phosphate of lime, we shall generally find the mucous coat more or less diseased, "the inner coat of the bladder apparently assuming, in such instances, the character of the inner surface of the abscess sometimes found in the prostate gland, which is known to secrete this earthy salt in great abundance. I am

doubtful, however, if any portion of the triple phosphate is ever derived from this source, but from the kidney only, from which same source, in various cases, a large proportion of the phosphate of lime is likewise undoubtedly derived*."

When a deposition of the mixed phosphates from the urine, as above noted, takes place, the general symptoms are of a very severe and harassing description. Thus there is very great irritability of system. At the same time there is a great tendency to flatulency, attended with nausea, or even vomiting. Sometimes constipation attends, or the patient is attacked with severe purging, on the cessation of which the bowels become obstinately costive, and so these two frequently alternate with each other. The evacuations, too, are black, or clayish, or otherwise very unnatural, and very often undergo active fermentation, as if mixed with yeast. The patient is at the same time harassed with severe griping pains of the stomach and bowels. Pain, and a sense of uneasiness and weakness, is felt all over the back, most severe in the loins, but extending downwards to the bottom of the sacrum, and upwards between the scapulæ to nearly the top of the back. The expression of the countenance also becomes peculiar, presenting a sallow, haggard-looking appearance. As the disease advances, great languor, with depression of spirits, habitual coldness of the extremities, anaphrodisia, and the other general symptoms of extreme debility, set in. The mind, too, in many instances, partakes of the general morbid condition of the body. Sometimes the patient is listless, indifferent, and almost insensible to every thing; in other instances there is a preternatural sensibility, and the patient is apprehensive, timid, and fearful, and, as they express themselves, extremely nervous, and in some even a degree of melancholy takes place.

The urine is always pale coloured, frequently opalescent, and for the most part voided in large quantity. When passed in large quantity it is generally transparent, and colourless like spring water, devoid of taste or smell immediately on being passed. It is then of very low sp. gr. about 1·001 to 1·002. It deposits no sediment, and is generally neutral; or, if any thing, has a slight alkaline reaction. When passed in smaller quantity it is generally opalescent; its sp. gr. much higher, from 1·020 to 1·025. Its reaction mostly neutral, but it soon becomes alkaline. It deposits, after standing for some time, a copious sediment, consisting of the mixed phosphates, in the form of an impalpable powder. This urine generally abounds in urea, which soon crystallizes on the addition of nitric acid. In both cases the urine soon becomes alkaline, carbonate of ammonia is evolved, the pungent odour of which is readily recognized, and it emits a most intolerable smell or stench, such as any who has once experienced can never fail to recognize. Any of the neutralizing agents will at once throw down the mixed phosphates, if the urine be not voided in a condition favourable to their immediate subsidence. Dr. Prout states, that the diuresis is more profuse by day than at any other time; and as the diuresis is not constant, but occurs at certain times, either spontaneously or from the actions of the slightest exciting causes, and as these are more likely to be applied in the course of the day more than at any other time, we can readily reconcile Dr. Prout's observation. The urine frequently contains diseased mucus or pus.

With respect to the causes, they appear to be of a mixed character, partly general and partly local. Injuries of the back, such as sprains, are very frequently the only assignable cause; such are falls, concussions, over-exertion, and the like. Mental emotions, fatigue, and all debilitating agents, may give rise to conditions of this sort of the urine. The causes of local operation are, for the most part, some source of irritation, especially about the bladder or urethra, more especially if continued for a considerable length of time. Thus, any foreign substance introduced into the bladder may become the immediate exciting cause of a deposition of this sort, and the nucleus of the concretion subsequently formed*. In this way a calculus of any sort retained in the bladder may be ultimately incrusted with the fusible or mixed phosphates, of which you here see examples. Strictures of the urethra, in particular constitutions, and the frequent or habitual introduction of catheters or bougies, from the irritation which they excite, may induce a condition of the urine such as that now described, and a proneness to deposit the mixed phosphates, and hence it is that foreign substances retained in the bladder almost

* Dr. Prout, p. 177, note.

* Mr. Smith, of Bristol, has very lately favoured me with some lithographic delineations, of interesting forms of calculous concretions. In one, a pin was found in the bladder of a female, partially encrusted with the ammonio phosphate of magnesia. In another, a common cinder is coated with carbonate of lime; but Mr. Smith doubts its ever having been in the human bladder. In another case, a piece of stick, thrust down into the urethra, having entered the bladder, divided into four portions, and became the nucleus of a fusible calculus, which was afterwards extracted from the bladder by operation. In another instance a tooth was found to form the nucleus. There are many instances of foreign substances getting into the bladder, and subsequently forming the nuclei of fusible incrustations.

always become incrusted with the phosphates, and not with the lithic acid. I myself have seen three instances in which the urine became of the general characters above described, and in one a quantity of carbonate of lime appeared in the urine. I need hardly observe, that repeated gonorrhœa, by the irritation it causes, and lues through medium the of mercury, may induce this condition of urine.

The event in such cases will depend much upon the particular circumstances of the case; such as the nature of the causes, the length of time they have continued to operate, and the degree of severity in the existing affection. When arising from severe injuries of the spine, the case may be looked upon as unfavourable; for though relief may be obtained by care, and due observance of the necessary regimen, yet it will be very apt to recur upon the least irregularity, or upon leaving off the means necessary to keep this diathesis in check.

When there is a stone in the bladder, or that any other of the enumerated causes of irritation are in operation, the event will depend much upon the time they have been in operation, and the degree of severity in the symptoms which they have superinduced. But there is one very favourable circumstance attending this form of deposition, that it very rarely gives origin to stone in the kidney.*

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

[Continued from p. 554.]

VII.—INJURIES OF THE SPINE. — ON THE NATURE OF VARIOUS LESIONS — THE SYMPTOMS AND EFFECTS REFERABLE TO EACH.

Principle controverted that immediate death follows fracture above fourth cervical vertebra; case proving.—Occasional absence of all urgent symptoms in fracture of spine; case.—Fatal injury within spinal canal not occasioning paralysis; case.—Sir Astley Cooper's opinion on non dislocation of heads of ribs. Two cases of this injury.—Necessity of a careful and guarded diagnosis in spinal injuries.—Analysis of causes producing three degrees or kinds of paralysis in sphincters and bladder. 1. Loss of voluntary muscular power. 2. Loss of power in the involuntary muscular fibres. 3. Impaired elasticity of structure surrounding neck of bladder; cases and facts in illustration.—Importance of these views in diagnosis.—Principles of treatment.

In considering these injuries, we pass but nominally from one class to another. The spine is, in one sense at least, a continuation from the head; and violence to the one very frequently involves the other, as we have seen. But here the order is inverted: I have now to show you how the true spinal system implicates the cerebral, as I have already pointed out the reaction from the encephalon to the spine.

You will continually be struck by points of resemblance between these and the injuries last considered. The spinal column is another set of bones, in which the fracture is of importance in relation to the injury inflicted on the parts which they sheathe and inclose.

Their compact form, spongy structure, and cartilaginous attachments to each other, defend them so well, that no common degree of violence detaches or fractures them. The spinous processes projecting towards the surface of the back, composed of thin laminæ, and less supported than any other part, are the most liable to fracture; and these may be broken without injury to the spinal canal or its important contents. To break the bodies of the vertebræ, the violence and shock must have been great enough to produce many worse and more fatal effects than those properly appertaining to the worst forms of fracture, such as concussion of the brain —the cord, and lesion of the spinal cord.

Paralysis more or less complete of all the parts below the fracture, except in the organs supplied by the great sympathetic—that is, in all muscles of voluntary motion—is the common consequence of these fractures.

There may be paralysis of all voluntary muscles, from the communication with the cerebrum—the source of all voluntary motion—being cut off by the lesion of spinal cord; but very generally the true spinal system is affected, whether that reside in the grey matter of the cord, as Mr. Grainger has endeavoured to demonstrate, or elsewhere, it matters little. Certain it is, that the centre of power for the excito-motory system is within the spinal column; destroy that, and the permanent functions of the system, and all reflex motions,

* Prout on Diabetes, &c. p. 182.

cease. Thus the usual result of severe injury to the spine is relaxation or paralysis of the sphincter muscles of the anus and bladder: the lower limbs may be pinched or cut, and yet there is no power to withdraw the limb from injury. Were it cerebral paralysis only, although the patient could not voluntarily move the limb, it would under such circumstances be involuntarily withdrawn by the reflex action through the spine. I need not dwell upon these distinctions, since you have seen all the facts demonstrated by experiments on living animals, by your distinguished Professor of Medicine, in this theatre. The bladder, I must remind you, becomes distended with urine, and yet no sensation is communicated; and I more particularly draw your attention to this fact, that you may always, as a first step in these injuries, examine the bladder, and relieve it of its contents.

These effects, however, do not always follow; and further, *considerable injury to the canal, and even partial displacement, is not necessarily or immediately marked by any urgent symptoms.* The two following cases will leave no doubt on this subject; they show, also, that the generally received axiom, that fractures above the third cervical vertebræ are fatal, should at least be understood to mean ultimately, and even remotely.

Case I., showing the occasional absence of all urgent symptoms in a Fracture of the body of the Second Cervical Vertebra.

William Barrowcliffe, on the 28th of May, 1836, was struck in the mouth by a musket-ball, which passed inwards, breaking the two upper incisor teeth, and was supposed by the patient to have been spit out.

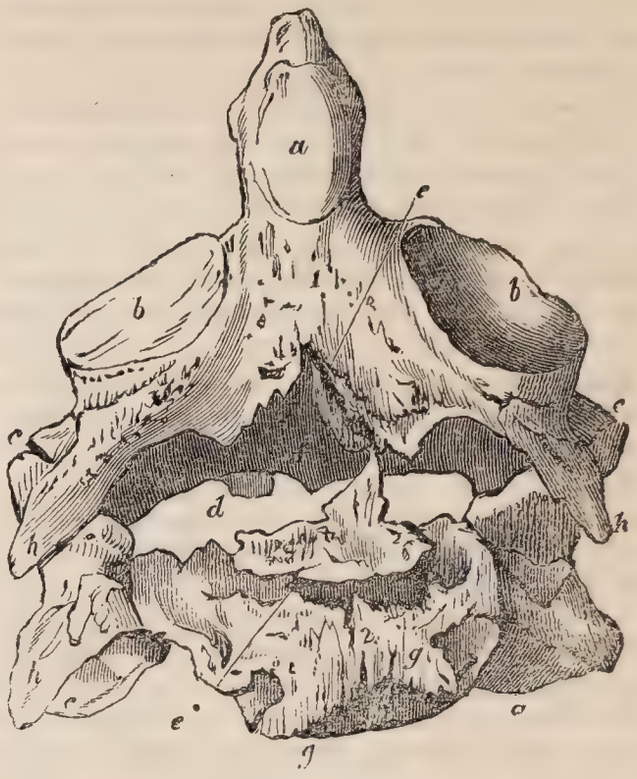
The wound of the lip speedily healed, no symptoms presented indicative of any further injury, and on the fifteenth day after admission the patient was discharged to duty at his own request.

Admitted again in thirty-eight days with great difficulty in swallowing; pain and stiffness of the back of the neck; slight obstruction to respiration, and inability to protrude the tongue. Pain in the shoulder-blades, up the side of his head, and on the left side of his neck. A blister was applied to the back of the neck, which he said relieved the pain of head.

3d day of his second admission.—Slight enlargement, of a puffy soft feel,

Fracture into Spinal Canal, between Second and Third Cervical Vertebræ.

Fig. 1.



Anterior View.

1. Body of the dentata.
2. Body of third cervical vertebra.

a, Articulating surface on fore part of odontoid process.

b, b, Articulating surfaces on superior oblique processes, for the articulation of atlas.

c, c, Two articulating surfaces on the inferior oblique processes, for the succeeding vertebra.

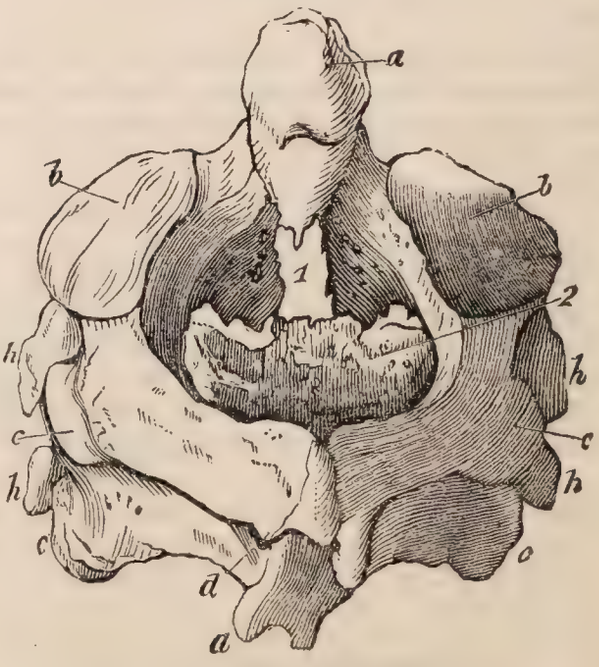
d, Point of spinous process of dentata.

e, e, Fractured and carious bodies of the second and third cervical vertebræ.

f, Posterior portion of the spinal arch formed by the dentata.

g, Leaf-work of callus thrown out.

Fig. 2.



Posterior View.

1. Body of the dentata.
2. Body of third cervical vertebra broken by the ball, and in a state of caries.

a, Odontoid process.

b, *b*, Articulating surfaces on superior oblique processes.

c, *c*, Articulating surfaces on inferior oblique processes.

d, *d*, Spinous processes.

h, *h*, Transverse processes.

just over the parotid gland of the right side, but most pain is felt on the left side of the neck.

4th. — Complains much of pain in both shoulder-blades, and up the side of his head. On passing over the course of the carotid, at the lower portion of the cricoid cartilage, rather more than normal resistance is offered to the finger; and if the pressure be continued, he complains of instant dread of suffocation—increased difficulty of deglutition.

He died on the 25th day after his second admission, the case presenting no other features. His appetite had not failed, he was able to go about, and his general health, to within twenty-four hours of his death, was good. A sudden change took place; he rapidly sunk and died.

Post-mortem.—No appearance of diseased structure presented itself until the trachea and œsophagus were removed, when a discoloration of the surrounding parts was exhibited behind the pharynx, and superior to the epiglottis. A dark spot close to the second cervical vertebra directed attention to that part; and it was found that the ball had entered the body of the vertebra, leaving many fragments of broken bone in the cavity formed by it. The whole substance of the body of the vertebra had been penetrated, exposing the theca vertebralis, which was however uninjured, beyond what might have been expected from the subsequent inflammation. Caries of the second and third vertebræ had proceeded to some extent. The course of the ball had been in at the mouth, passing through the back of the pharynx, above the epiglottis, and into the body of the second cervical vertebra. (See fig. 1 and 2.)

Second Case, showing the absence of all urgent symptoms indicating injury to Spinal Column.

Captain C——, on the 6th of June, 1836, was wounded by a musket-ball, which entered the left buttock, and from examination at the time was supposed to have lodged in the pelvis. I passed my finger into a portion of the ilium for some distance, in a bony canal rough with crumbled fragments. At the time of receiving the injury he experienced little or no inconvenience from it, and walked into town, a distance of some three miles.

On arriving at his billet, blood was abstracted from his arm to the extent of ʒxx., and a strict antiphlogistic treatment adopted.

During the first eight days there was no perceptible alteration in his health. After this period suppuration was established, and purulent matter discharged in considerable quantity, accompanied occasionally by very small spiculæ of bone; and from that time the powers of the constitution gradually gave way, occasional attacks of diarrhœa and hiccough supervening. He also complained latterly, at times, of a cold sensation in his feet, which was attributed to some lesion of the nerves distributed to these parts. He died August 2, nearly two months after the receipt of the injury.

Post-mortem. — Greatly emaciated. On opening the cavity of the abdomen, for the purpose of tracing the exact course of the ball, it was discovered that it had not entered the pelvic cavity, but had passed in a slightly oblique direction through the glutæal muscles, through a portion of the os innominatum, and had lodged in the upper portion of the os sacrum, superior to the spinal cord where it joins the vertebral column.

On passing a director in at the broken orifice of bone, it passed within an inch of its whole length along an irregular and comminuted bony channel, and presented, covered only by the muscles, over the sacrum, a little to the left of the centre, and as nearly as may be at the junction of the sacrum with the last lumbar vertebra. The ball was found lodged at this point, but apparently prevented from pressing upon the spinal cord by the broken fragments of bone, which, impacted, formed a kind of bridge and bed. The ball was a good deal grooved and scraped, but not at all flattened or jagged by its traverse of some three inches in bone, which it had comminuted and pulverized in its course.

For the first two or three weeks he

was in good spirits, free from pain, and seemed but little affected. The wearing away was very gradual subsequently, and he retained his freedom from pain, hope, and appetite, to the last. His most distressing symptom was *hiccough, which set in for the last two or three weeks with very little intermission.* Diarrhœa came on at intervals, but was not obstinate, and rather seemed to depend upon some irregularity in his diet than the wound.

At other times, although more urgent symptoms attend these injuries, yet, with fracture of the canal and some degree of pressure, no paralysis follows, only a pricking sensation in the feet—even in cases where the mischief to the cord extends upward to the brain, and with extravasation sufficient to produce considerable pressure within the theca, of which the following is an example:—

Case shewing fatal consequences from Injury to Spinal Canal and Medulla Spinalis, without Paralysis; also, Dislocation of the Ribs at their articulations with the Spine.

George Cusack, wounded on the 1st of August, 1836. A musket-ball entered about three inches to the side of the spinous processes, entering the chest at the edge of the eleventh rib, fracturing it between its neck and angle, and lodged in the angle of the last dorsal vertebra, together with a piece of red coat and wadding. The head of the twelfth rib was dislocated on the body of the succeeding vertebra. Near the last dorsal vertebra the diaphragm was torn, and superficial ulceration appeared on the surface of the liver and kidney, in contact, probably caused by the grazing of the ball. *The theca and spinal cord ruptured, and portions of broken bone forced in upon it.* (See fig. 3)

In detailing the symptoms of so complicated and extensive an injury, of course only a few of them can apply to spinal injury: to these I shall chiefly confine myself.

On the introduction of the finger the lung was felt acting against it; and at his admission he expressed great agony by his cries. His chief complaint was *severe pricking pain of the ankles and feet, with difficulty of breathing.*

V.S. ad ℥xx. Antimonial mixture and opium administered in separate doses.

The next morning he was easier; had not slept much, but was relieved by the bleeding; pulse 100, full; skin hot; tongue furred; two stools; breathing less difficult.

Delirium came on in the third night, which, with the pains in the feet, continued to the last, with occasional intermission. On the evening of the 4th day he laboured under retention of urine, which, on being relieved, did not return. Pulse accelerated throughout; air passed through the wound.

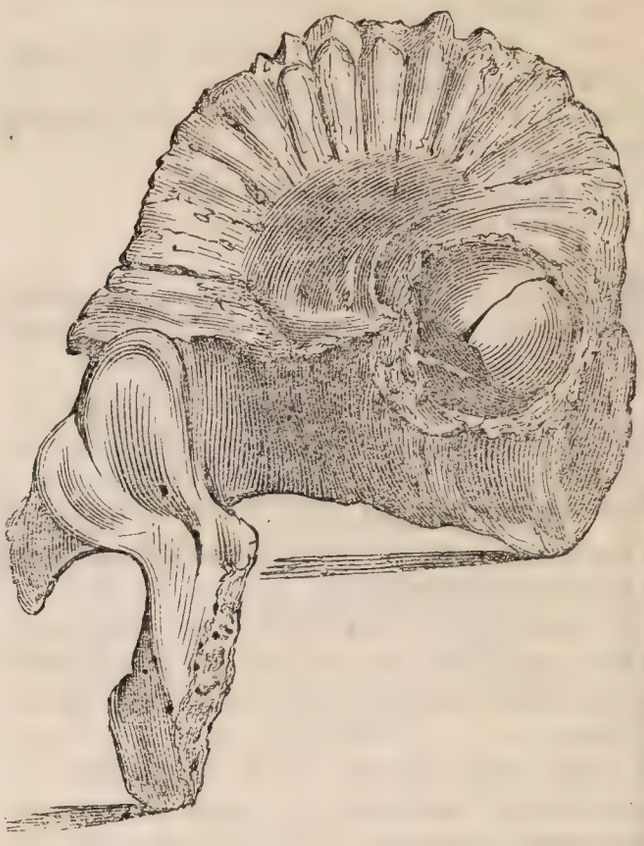
On the 10th day symptoms of trismus supervened, with some degree of opisthotonos.

Post-mortem.—Injury and course of the ball have been described.

Thorax.—Right lung adhering, except around the wound, where some yellow turbid serum was collected. The

Fig. 3.

Fracture into Spinal Canal; Ball lodged.



Description of the Bone after Maceration.

a, The inner surface of the body of the last dorsal vertebra, forming the base of the canal, for the spinal cord is in a state of partial caries.

b, The superior surface of the body, forming a small circular line near the ball, broken.

c, The ball, with a piece of red coat and white coarse lining, firmly impacted in the angle of the body, and presenting a smooth round surface.

d, Both the upper and under surface of the body considerably discoloured, in an irregular circle round the ball, which projects a little into the spinal canal.

lung being unattached here for an extent equal to the palm of the hand, a considerable quantity was found. The pleura itself was much thickened by the adhesion of a thick layer of tough yellowish white lymph, presenting externally a granulated corrugated appearance, of which a portion is here preserved. The left lung was perfectly healthy.

Head —On opening the cavity of the cranium, and reflecting back the dura mater, the pia mater was found somewhat injected; substance of brain not unnatural; ventricles normal. At the base of brain, however, there was a considerable quantity of serum. Integuments and muscles of neck and back infiltrated with serum.

Arterial coloured blood in considerable quantity was found extravasated in the internal surface of the whole of the cervical part of the theca vertebralis, and its remaining part was vascular.

When the spinal cord was removed from its canal, the inner plate of the body of last dorsal vertebra was found to have been irregularly forced inwards by the ball, which was firmly lodged, as described, in the cancellated structure. The portions of bone forced inwards projected a considerable distance within the spinal canal, and had lacerated the theca for about half an inch, while a small portion of spongy bone was found entangled within the medulla, without, however, any perceptible lesion.

None of the spinal nerves appeared to have suffered any laceration, but extending downwards over the corda æquina from the lacerated part of the theca, a fine coating of yellow lymph was observed, and the tortuous vessels of the remaining part of the cord were rather more than usually injected.

It is rare that an injury and its symptoms should, in their relation to each other, be so well and distinctly marked. Here is a severe injury of the lower portion of the spinal column, without paralysis; the cerebral system, in the first instance, as well as the symathetic, but little affected. The true spinal system is the seat of injury; and what are the signs? First, there is impeded respiration, and the extravasation of blood in the theca of the cervical portion of the fluid in the base were alike found, as further evidence or cause. The pricking and very distressing sensation in the feet may very naturally be referred to the spicula of bone pressing upon the medulla. Towards the fourth 24 hours there is further impaired power of the true spinal system, and the cerebral also becomes gravely implicated; in evidence of the first there is loss of sensation in the bladder, retention of urine; of the second, delirium.

The next day the impaired action of the whole excito-motory system ceased, gradually became excited, and finally ended in trismus and opisthotonos.

I laid some emphasis on the fact of the dislocated rib, because it is stated, on high authority, Sir Astley Cooper's, whose talents and experience necessarily give great weight to all his opinions, that he has never seen such a case, and thereby almost implying its impossibility. Nor is this injury confined to gun-shot wounds. Here is another case which sets that question at rest, a case of great interest in many points, and to which I would particularly call your attention, as I shall hereafter have to allude to some of its features.

Case of Injury to Spine, and Dislocation of the heads of the 6th, 7th, and 8th Ribs, from Contusions.

Richard Powell, Feb. 5th, 1837, received several severe injuries about the body and spine, from the falling in of part of the roof of an old house. The spinous processes of the 6th and 7th dorsal vertebræ were found to be broken; and from paralysis and other symptoms it was presumed serious injury had also been inflicted on the medulla spinalis. The notes of the first three days have been mislaid. On the fourth day of the accident he was found to have slept little, being affected with a very frequent and harrassing cough. There was paralysis of the bladder, and the stools passed involuntarily. Pulse 90, weak and small; experiences little pain in the back, except when moved. The urine is drawn off by catheter to relieve retention.

℞ Ext. Conii, gr. v.; Morphiæ Acet. gr. ss. ft. pil. st. s.

5th day.—Lower part of abdomen insensible; much pain complained of in the epigastric region, but no tenderness on pressure, evidently proceeding from irritation of sentient nerves, and not

inflammation. Enema, cum ʒss. Ol. Terebinth., no stool having passed for 24 hours.

6th.—Bowels continue constipated; evident impaired action in the abdominal muscles. Epigastric pain appears relieved by the application of a blister.

Ol. Tiglii, gtt. i. st. s. Rep. Enema.

7th.—Passed a tranquil night; bowels evacuated by enema, &c. Urine deposits a thick sediment; temperature not lowered in the paralyzed limbs. Since the application of blister, says he breathes more freely; cough less frequent and difficult.

8th.—A quantity of mucus passes when the catheter is used; little pain when undisturbed.

9th.—Flushed face, and increased strength and velocity of the pulse.

10th. — Involuntary discharge of fæces; urine more thickly surcharged with deposit.

11th.—*Involuntary discharge of urine.*

14th.—Little change in the intervening days; now considerably deteriorated; complains of renewed pain of abdomen; secretion of urine much diminished; pulse hardly perceptible; and on the 15th day from the receipt of the injury he died.

Post-mortem: external appearance.—Abdomen tumid with gases, apparently generated during the rapid decomposition of the body. The scrotum was inflated to the size of a child's head, and puncture by the scalpel was followed by the escape of gas. An extensive slough had formed over the sacrum. On removing the coverings of the spinal column the following injuries were found:—

Fracture and depression of the spinous processes of the 6th and 7th dorsal vertebræ; complete fracture and separation of the body of the 6th dorsal vertebra, by the depression of one part of which the spinal canal was intersected by an angle of bony substance, and the spinal sheath and cord crushed and lacerated. On both sides of this part of the spine the 6th, 7th, and 8th ribs were fractured, *and two of them had their heads dislocated from the articulation with the transverse processes.*

Now here is a similar case without any gun-shot injury. Two cases in one year sufficiently prove the possibility. There is attendant fracture in both, but this would rather tend to diminish than increase the liability to dislocation. There are instances of injuries in military hospitals which probably in a long life do not fall under the observation of surgeons in civil practice. Yet are such cases most valuable, filling up many blanks, and establishing numerous facts and principles, which, in the accidents and injuries of towns, would be little likely to be developed. And thus you will also perceive, that whoever has studied the more complicated forms, must come to the treatment of a more limited range with great advantages. In this conviction at least have I felt it a duty to devote a series of lectures to these grave complications in surgery, and to bring such cases as these before you in the hope and belief that their consideration would prove of essential service hereafter.

The first two cases described have been brought especially under your notice, to enforce the necessity of a guarded and careful diagnosis in all cases of injury in or about the spine. To impress upon you a fact which may be of no small importance to your credit hereafter in practice, that in fractures of the spine and pelvis the absence of severe symptoms is no sure proof of non-fracture, nor, indeed, of the absence of lesion into the spinal canal. That not only lesion of the bodies of vertebræ and infraction of the bony canal, do not necessarily occasion paralysis, but even extensive injury to the spinal cord itself, occasionally fails in producing it.

There is another point in reference to these injuries not so generally understood as its importance to our diagnosis requires, viz., the degree and mode in which the action of the bladder and rectum, as depository organs of the excretions, are affected by spine injuries.

Here both the cerebral and the true spinal system are generally combined to produce the effects observed. The muscles are of the mixed character, voluntary and involuntary; the former of these is more easily impaired than the lattter. A loss of voluntary motion, therefore, is generally the first stage or degree of paralysis observable; and then, although the patient cannot at will evacuate either bladder or rectum, yet there is neither retention of urine

nor obstruction in the bowels. These acts, in truth, are chiefly under the control of the true spinal system, and therefore, when the contents in either cavity accumulate, the sentient nerves convey the impression to the spinal centre, and a reflex motor action is induced, causing the contractile action of the muscular fibres surrounding them, relaxation of the sphincter, and the expulsion of the contents.

In a second degree, however, or rather another kind forming only a second degree in effects, the true spinal system is the seat of injury, its power is impaired, the sentient and motor nerves of that system are alike more or less paralyzed, the contents of the two cavities accumulate, and no reflex action from sensation to motion through the spinal centre takes place; and if relief be not artificially afforded, distension may go on until it produces gangrene of the parietes by pressure.

But if this paralysis be more complete, the muscular fibres guarding the orifices of the rectum and bladder are both relaxed; the contents of the rectum are passed involuntarily, but probably not the urine. There is retention; and how is this? A much more complicated apparatus is formed by the bladder and urethra than by the rectum. The mere relaxation of the sphincter vesicæ, or muscular fibres around the urethra, is not enough to produce immediate discharge. If the bladder be not very full, so that the fluid is above the level of the bladder, even if the passage were open, no urine would flow, unless there was some muscular power to squeeze the bladder and project forward its contents. But this is not all; even when the urine, by a law of gravity being above the orifice of the urethra, would pass out, and when the sphincter muscular fibres are relaxed, the elastic tissue round the neck will still sufficiently close the opening to prevent the flow or passage of the water when there is no muscular force to propel it and overcome the resistance.

It was stated by Mr. Hunter, that the action of elasticity was continual; and his commentators, proceeding a step farther, assert that elasticity in animals does not, like muscular contraction, depend on life, an elastic body possessing that property as perfectly after death as before. At a first glance this assertion seems very plausible and natural, yet I believe it is incorrect. Whatever physical properties any animal structure may be endowed with, there is reason to believe that such properties are all modified, increased, abated, &c. by vital influences, as those of the nervous system. And the fact in question, relating to the retention of urine, subsequently followed by incontinence, seems to me a proof in point.

It is only in the most complete degree of spinal paralysis, then, when not only all involuntary muscular fibres are entirely relaxed, but even the nervous power, upon which the elastic tissues must in some degree be dependent for their elastic or contractile power, is withdrawn, that you find incontinence of urine.

Thus we may distinguish three well-marked stages, the result of impaired power from injuries of the spinal column.

1. Loss of voluntary power to induce expulsion of fæces or urine.

2. Loss of power of involuntary muscles and relaxation of the sphincters, giving *involuntary discharge of the contents of the rectum and retention of urine.*

3. Total paralysis of all nervous power derived from true spinal system, on which the *tone* of all tissues depend, giving incontinence of urine.

It will be evident how concussion and other cerebral injuries may induce precisely the same degrees and effects, in proportion as the cerebral functions only, or the excito-motory system in addition, become complicated.

You will find in many works of authority in surgery, that, in reference to injuries of the spine, it is broadly stated, that "if any of the cervical vertebræ be broken above the fourth, death is immediately the result." The case of Cusack can leave no doubt in your minds that this must be taken *cum grano salis;* that it is, in truth, somewhat too sweepingly stated. I have no doubt all such injuries prove ultimately fatal, but certainly not immediately. The following is a very interesting case,—

Showing a very high Division of the Spinal Cord, not causing death until the third day.

Sergeant Moreland, on the 25th of July, 1833, in Oporto, was wounded by

a musket-ball, which passed directly through the back of the neck, evidently injuring the spine about the fourth cervical vertebra. A complete paralysis of all the body below the wound immediately followed.

2d day.—Little hæmorrhage; he is exceedingly low, breathing with difficulty. He conversed rationally until the 2d night. About three hours before death he became insensible. The next day, early in the morning, he died.

Post-mortem.—The arch of the spine, between the fourth and fifth cervical vertebra, was found comminuted, and *the spinal cord entirely divided.* I am not aware of any other instance on record of a complete division of the spinal cord so high, where life was preserved so long. The bowels were not acted upon until the morning of his death, when both fæces and urine passed involuntarily: a case proving beautifully, and far more indisputably than all the experiments devised for this purpose, that the true spinal system does exist, and may exist, independently of the cerebral. Paralysis of this, as shown by the continued action of the sphincters, only took place when all the powers of life failing, ushered in his death. Here, also, we see an instance of the mutual independence, to a certain extent, and for a time, of the cerebral and true spinal systems, both remaining unimpaired, though cut off from each other, until the approach of death.

There was a coagulum of blood above and below the wound, between the medulla and theca spinalis; and this membrane was red and injected for a considerable distance. Lungs natural; intestines, bladder, and kidneys, were covered with dark patches of an ecchymose character. Gall-bladder empty; liver pale and flaccid.

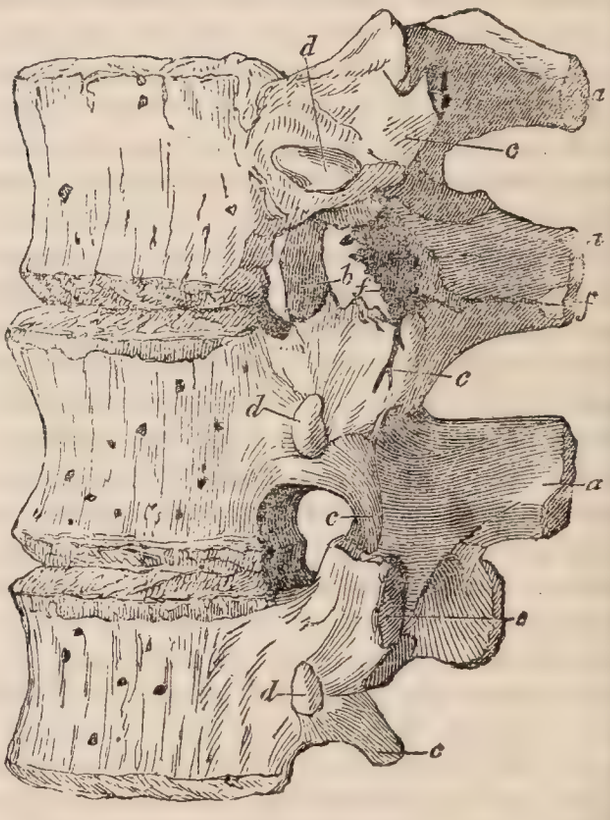
There was no one symptom indicating any inflammation in the abdomen, the severe cramps alone drawing attention to that part. How far pure nervous irritation may have induced the inflammatory action or lesion of organic nervous fibres, I will not now attempt to explain.

The state of the bladder confirms all that I have advanced on that head. As the true spinal system became more deeply involved, we see the supervention of distressing spasms in the upper as well as lower limbs, and impeded respiration.

In some rare instances, inflammation in the coats of the abdominal viscera is an attendant on severe spinal injury. How far this may be considered as a direct consequence is difficult to determine; but that it is developed in some manner by the injury is less doubtful. I am inclined to regard this effect as analogous with the inflammation which supervenes in the conjunctiva of the eye, on division of the second cervical ganglion interfering with the nutrition of the organ. In such injuries as those now described, lesion of organic nervous fibres must be a frequent attendant. I will relate to you a case interesting in many other points, where this effect took place very extensively;—and here is the preparation showing the exact nature of the injury to the vertebræ.

Fracture into the Spinal Canal.

Fig. 4.



Lateral View.

a, a, a, Spinous processes.

b, Portion of the oblique and transverse process carried inwards into the canal, by the musket shot in its passage.

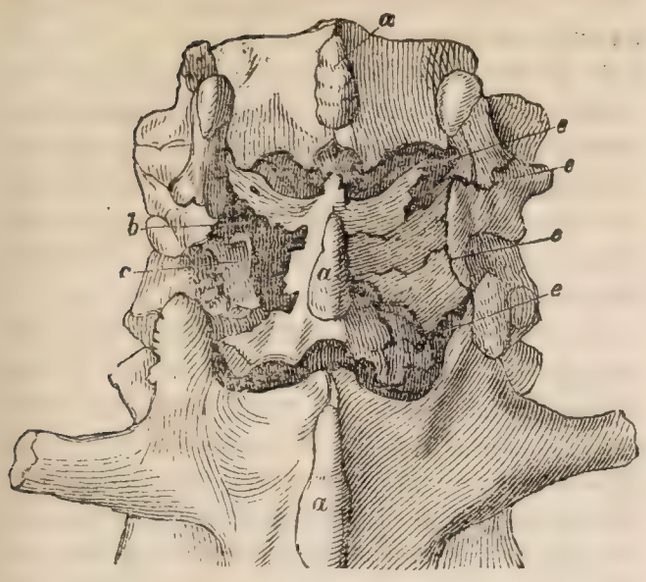
c, c, c, Oblique processes.

d, d, Transverse processes.

e, Articulation for the ninth rib.

f, Fractured bone, showing the passage of the ball.

Fig. 5.



Posterior Aspect.

a, a, a, Spinous processes.

b, Entrance of the ball, carrying a portion of the transverse process inwards into the canal.

c, The portion of process carried into the canal.

e, e, e, e, The various fissures made through the spinous process by the passage of the ball.

Case of Injury to Spine, showing as an occasional attendant or consequence extensive ecchymosed patches of the abdominal and pelvic viscera.

John Got was admitted October 1, 1836, having been wounded by a musket-ball, which entered over the angle of the eleventh rib, and was extracted on the right side, by incision over the curvature of the ninth rib.

I found the pulse slow and steady, not small; skin cold; face pallid; aspect weak and anxious. He was moaning constantly, with pain and cramp at the lower part of abdomen, and both thighs, legs, and feet. No pain on pressure of abdomen; extremities cold.

℞ Cap. Tinct. Opii, ℥xx.; Sp. Ammon. Arom. ʒss.; Aquæ, ʒij. statim.

The draught was repeated thrice.

1 o'clock A.M.—Paralysis of lower extremities, with severe abdominal pains.

2d day.—Had slept a little during the night, and the pain was less in the back; pulse was very full and quick. On examining the hypogastric region, I found the bladder contained a considerable quantity of fluid, capable of being pressed by the hand mechanically from the urethra. Bowels have not acted since his admission.

On the 3d day he was easier. On the 4th the retention of urine was converted into incontinence. He was cupped near the site of injury to twenty ounces, and two drops of croton oil were administered. No constitutional irritation was manifest, and but little pain experienced.

On the 5th day the bowels, with the aid of a terebinthine injection, were relieved; the pain of spine and restlessness were considerable.

On the 6th, at 4 o'clock A M., he was attacked by distressing spasms and pain of lower extremities; the arms were drawn up across the chest; respiration became more and more prolonged, and performed with an excessive effort of the respiratory muscles; and at 10 o'clock he died.

The jar or concussion attending many of the worst forms of injury to the spine, occasionally produces effects in the cord analogous to those I have described at some length as resulting in the brain—softening and disorganization; it also leads, as has been shown in one of the cases quoted, to effusion at the base of the brain, and consequent pressure; also, extensive effusion within the theca.

Whenever there is paralysis of the lower extremities, generally a similar effect, in one or other of the degrees described, exists in the bladder and rectum, unless that paralysis shall have arisen from lesion simply of the cerebral motor tract.

The treatment of these injuries offers little that is satisfactory to communicate. By no local apparatus can the surgeon attempt to restore the bones when displaced, even could he accurately discover when it existed, or in what form, which, of course, he cannot. Any operation for removing portions of bone which may be supposed to be pressing upon the spinal column, is inadmissible, I conceive, on two grounds:—

First, the indication of the depression cannot be sufficiently distinct.

Secondly, to cut through the deep layer of longitudinal muscles, beneath which the bodies of the vertebræ lie, and on which wound the patient will most likely be compelled to rest; and then to inflict the violence necessarily required, both on soft and bony structure, to conclude the operation, leaves no sufficient hope of a successful result when added to the original mischief. Two fatal cases of operation in this town are on record. Even had this pro-

ceeding the merit once ascribed to it, of "giving no pain," I must, with all due deference to high authority, declare I think it a bad operation. It may readily be conceived that I am tolerably familiar with the knife, and not likely to hesitate in its use whenever it may seem necessary. I would not, however, use it in such a case, from my conviction that no beneficial effect would be likely to result.

To such local and general means as are best adapted, to check inflammation, and diminish the general irritability of the system—to promote the ease and comfort of the patient as regards the position—with friction of the abdomen when distended—there is, I fear, little to be added.

It generally happens that injuries of the spinal cord give rise to an irritation of the nervous system of the most serious kind, often ending in inflammation and effusion in the brain. Care must be taken to draw off the urine at least twice in every twenty-four hours, if there be retention—to insure the greatest cleanliness when there is involuntary discharge of the fæces, &c., and carefully guard against the formation of bed-sores, which, if they do not hasten the dissolution of the patient, must at least have the effect of adding greatly to his sufferings and discomfort. There are a great many imaginary evils in the world; but in the treatment of your patients let me beg you ever to bear in mind, that pain is a real evil, and one of the greatest of this life. It might cost me little to forgive any man's shortening by a few weeks or months my life; but in my conscience I think no one deserves forgiveness who, either by carelessness or wilfulness, makes any portion of it miserable.

OBSERVATIONS

ON THE

OVA OF THE MAMMIFERA,

BEFORE AND AFTER IMPREGNATION.

IN REFERENCE TO

Dr. Martin Barry's "Researches in Embryology."*

By T. Wharton Jones.

[*For the London Medical Gazette.*]

§ 1. Among the observations with which Dr. Barry enters upon the first series of his "Researches," are the following words, at page 302:—

"It may not be improper, in the first place, to furnish an idea of what has been already published on some branches of the subject; *for it is one to which the attention of physiologists in this country has scarcely begun to be directed.*"

If the reader will refer to the Philosophical Transactions, Part II. for 1837, page 339, he will, perhaps, see reason to demur at the accuracy of this assertion, when he reads there a paper entitled, "On the First Changes in the Ova of the Mammifera, in consequence of Impregnation; and on the Mode of Origin of the Chorion." He will perhaps demur still more at the accuracy of the assertion, when he finds, moreover, in the introduction of the paper here mentioned, reference to another, describing the structure of the ovum of mammiferous animals, as it exists in the ovary before impregnation*.

The latter paper, which is entitled, "On the Ova of Man and Mammiferous Animals, as they exist in the Ovaries before Impregnation; and on the Discovery in them of a Vesicle analogous to that described by Professor Purkinje in the Immature Egg of the Bird," was read before the Royal Society, June 18th, 1835. It was *not* published in the Philosophical Transactions, for the reason, I believe, that I was not in London at the time to demonstrate what I described; but the manuscript, with the drawing illustrating it, is in the Archives of the Royal Society, and it is printed in full in the first volume of the Medical Gazette, for Session 1837-38, pp. 680-688; London, 1838.

§ 2. Having made this statement, which, in justice to myself, I feel called upon to do, I will now enter into an examination of the pretensions to novelty, originality, and correctness, which Dr. Barry has introduced into both series of his "Researches."

§ 3. At page 301, Dr. B. says in a note:—

"Professor Baer called the vesicle he

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* 1. Researches in Embryology: First Series. By Martin Barry, M.D. F.R.S.E. &c. in Philosophical Transactions, Part II. 1838.

2. Researches in Embryology: Second Series. By Martin Barry, M.D. F.R.S.E. &c. in "Proceedings of the Royal Society," No. 38, 1839.

* Had there been no other, the labours of Dr. Allen Thomson in this field ought to have been sufficient to have obviated the reproach so sweepingly implied, in Dr. Barry's allegation, against the physiologists of this country.

discovered in the ovary not the *ovum*, but the '*ovulum*.' If, however, it can be made to appear extremely probable that the chorion, or external membrane of the ovum of the uterus, is a primitive part of the ovarian vesicle of Baer, it is perhaps better to call the latter an *ovum*, as will be done in this memoir."

In reference to this point I will take the following extract from my first memoir, read before the Royal Society in 1835:—

"*Of the ovum.*—Baer calls this *ovulum*, not so much on account of its very small size, as from considerations which, in the course of this memoir, I shall attempt to show are unfounded. I apply to it the name *ovum*, in the same sense as I would apply the term to the egg in any other class of animals." And again I say, further on, "From what I have said, I think I am justified in concluding, that in the small body discovered by Baer in the Graafian vesicle, and which I have described in this memoir under the name of the *ovum of the mammifera*, we have the analogue of the egg of the bird and that of other ovipara."

The above quotations are sufficient to show that, in the presence of the Royal Society, in the year 1835, the body discovered by Baer in the ovary was designated by the name of *ovum*, and that for reasons which, I apprehend, no one gainsays. In his second memoir, Dr. B. acknowledges his having been in error regarding the mode of origin of the chorion: hence the particular reason he adduces for calling the ovulum *ovum*, goes for nought.

§ 4. At page 303, Dr. B. says, "It will presently be shown that a perfect analogy does not exist between these bodies," *i. e.* the bodies expelled respectively from the ovaries of mammalia and those of other vertebrated animals. I would remark, that the observations contained *in* my paper, in Part II. of the Philosophical Transactions for 1837, comprehend striking and beautiful illustrations of the closeness of the analogy on which Dr. B. attempts to throw a doubt; and I shall by and by show that the reasons against a perfect analogy, to which Dr. B. refers, are substantially confuted by his subsequent admission of error regarding the mode of origin of the chorion.

§ 5. At page 311 of Dr. B.'s paper, in the Philosophical Transactions, appears the following note:—

"T. W. Jones (London and Edinburgh Philosophical Magazine, No. 39, Sept. 1835, page 209) mentions the germinal vesicle as 'having on one side a small elevation, which, projecting among the grains composing the granular sac, fixes the vesicle in its place.' I have never observed this 'small elevation,'" continues Dr. B., "nor do I find any mention to have been made of it by either Coste or Valentin, who had previously described the germinal vesicle in mammalia, or by those who have since written on it."

If Dr. B. had, instead of quoting from the abstract, unauthenticated by my revisal, of my paper read to the Royal Society in June 1835, referred to the original manuscript and drawing in the archives of the Royal Society, or to the paper as it is printed in the first volume of the MEDICAL GAZETTE, for the session 1837-38, he would have learned what this "small elevation" is; it would have seen by the figures that it is nothing more nor less than the so-called germinal spot of Rudolph Wagner; he would have seen fig. 7, representing, within a square area, the human germinal vesicle isolated, and on one side of it the "small elevation." In fig. 3 he would have seen the human ovum represented, as viewed under the microscope by transmitted light; and on one part of the surface of the yelk a "small spot," which is the "elevation" on the side of the germinal vesicle. Again, in fig. 6 is exhibited a "spot on the surface of the granular sac." This spot, it is remarked, "which may be considered as the cicatricula, is the elevation on the side of the germinal vesicle." Figs. 8, 9, 10, also represent the "small spot," or "small elevation."

If Dr. B. had referred to the memoir itself, he would have found, in addition to all this, the following remark, in a note, regarding the "small elevation," or "small spot:"—"I shall not at present venture on any speculation regarding the nature of this part; but that it performs an important function there can be no doubt."

I believe we are as far from knowing the function of the spot now as when I wrote; the name *germinal spot*, therefore, given to it by Rudolph Wagner, can only be employed in a general sense, and by no means as expressive of its particular nature or function.

But Dr. B. objects to the expression

"small elevation." That the germinal spot of the germinal vesicle of the mammiferous ovum forms a "small elevation," as I say, is proved by the following circumstances, which I particularly noticed at the time I made the observations:—

1. In most ova the germinal vesicle itself is covered by the granules of the yelk, and not seen until the ovum is dissected, or compressed; but in many ova a small spot is seen (as in my figs. 3 and 6) peering from among the yelk grains. That this spot is the so-called *germinal spot*, is proved by the circumstance that, in other ova, it is distinctly seen at the same time with a part of the circumference of the vesicle. Now if the spot were not elevated, it could not be seen while the vesicle itself was covered by the yelk grains.

2 By varying the focus of the microscope, and observing the distinctness or indistinctness of the spot in relation to the other parts, the spot appeared to me elevated.

Here I may mention, that I used the simple microscope—an instrument much less likely to lead to error, under such circumstances, than the compound microscope.

Bernhardt's figure, copied by Dr. B. (plate viii. fig. 72), represents the spot, but the rest of the vesicle is concealed by the yelk grains.

§ 6. At page 312 of Dr. Barry's first paper we read the following:—

"*The ovisac of birds ('chorion' of authors) compared with the ovisac of mammals.*—The ovarian calyx of the bird, if deprived of its peritoneal investment, and what there is of the parenchyma of the ovary, would, I apprehend, present *a structure analogous to the Graafian vesicle of mammals*; that is, *a structure consisting of an ovisac that has acquired a proper* (*and in the later stages, a highly vascular*) *covering.* Yet the ovisac of birds has been mistaken for a vesicle corresponding to the *chorion* of mammals; and accordingly it has been called the 'chorion.'"

Again, at page 314, Dr. B. says:—"From the foregoing it appears that the Graafian vesicle is not, as it has been supposed to be, a structure peculiar to the mammalia. Nor is it correct to consider the Graafian vesicle of mammalia as analogous to the whole calyx of other animals It corresponds to no more than the two internal membranes, viz. the ovisac and its proper vascular covering, the remainder of the calyx being derived from the ovary, with—in birds, some amphibia, and some fishes—a peritoneal covering; and however inconsiderable this portion of the calyx may appear, yet, for the sake of analogy, the distinction is not unworthy of being made."

All this is true; but I dissent from the correctness of the allegation, that it was not clearly stated before. I can answer for myself, that I am not one of the authors who have mistaken the ovisac of birds for the analogue of the chorion of mammals. This, I think, the following extract from the first memoir I presented to the Royal Society will show:—

"In birds, the yelk and its membrane are the only parts of the egg which are formed in the ovary. The chalaziferous membrane, the chalazæ, the albumen, the membrane of the shell, and the shell, are added in the oviduct. The ovary of the bird may be described as a cluster of capsules, with their contained yelks, varying in magnitude from that of a millet-seed to the full-sized yelk. The stroma which surrounds these capsules is a laminar cellular tissue, delicate, and in small quantity. The indusium is derived from the peritoneum; it envelops almost entirely each capsule, and forms, along with the vessels of the latter, a pedicle, by which the capsule is attached to the body of the ovary. The very small capsules not being so completely enveloped by indusium, are not pedunculated, but sessile. The capsule in which the yelk and its membrane are found, is composed of two laminæ—an outer, cellulo-vascular; and an inner, soft and spongy, which receives small vessels from the larger branches ramified in the outer."

After this I consider the yelk and its membrane; and having described the vesicle of Purkinje, I gave the annexed diagram (No. 1) of the whole structure; a little further on the diagram (No. 2) of the Graafian vesicle and its contents; and then, still further on, say—"There can be no doubt that the capsule, which contains the yelk in the hen's ovary, is analogous to the capsule of the Graafian vesicle."

§ 7. I now come to p. 315 of Dr. B.'s first paper, where is found a section, entitled, "*The proper Membrane of the Yelk in Mammals.*"

Diagram, No. 1.

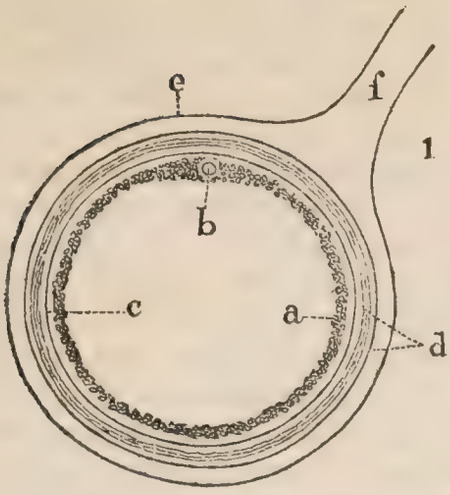


Fig. 1 is a diagram representing a section of the hen's egg within the capsule of the ovary, and the position of the vesicle of Purkinje. *a.* The granulary membrane, forming the periphery of the yelk. *b.* The vesicle of Purkinje embedded in the cumulus. *c.* The vitellary membrane. *d.* The inner and outer layers of the capsule of the ovum. *e.* The indusium of the ovary. Betwixt the indusium and the capsule the stroma is seated. *f.* The pedicle by which the capsule is attached to the ovary.

Diagram, No. 2.

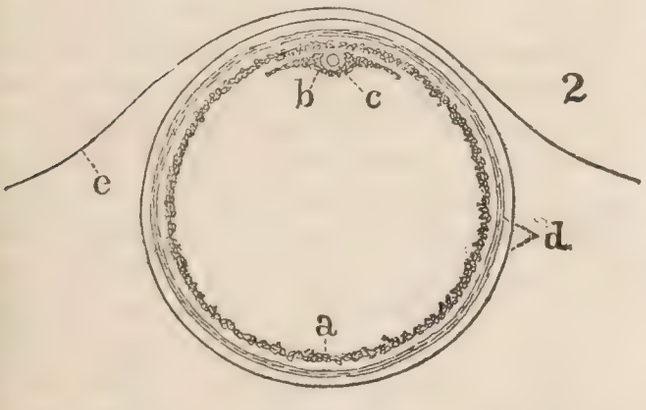


Fig. 2 is a diagram of a section of the Graafian vesicle and its contents, shewing the situation of the ovum. *a.* The granulary membrane. *b.* The proligerous disc. *c.* Ovum. *d.* The inner and outer layers of the wall of the Graafian vesicle. *e.* Indusium of the ovary derived from the peritoneum, the stroma immediately underneath which is condensed so as to form the *tunica albuginea*.

On the correct determination of what is the vitellary membrane, correct notions regarding the mammiferous ovum and its analogies both before and after impregnation, entirely depend. We must therefore be extremely cautious on this point, and not admit the existence of any structure on light or doubtful grounds.

Dr. B. commences the section thus:— "Several distinguished authors have not described this membrane;" and in a note says, "among these are Coste and T. W. Jones." This is quite true; neither Coste nor I have described such a membrane as that the existence of which Dr. B. here tries to establish. What Coste and others, as well as I, have described as the vitellary membrane, is the thick transparent coat of the ovarian ovum; the part described by Dr. B. at p. 316, under the title of "the true chorion, or structure superadded within the ovary in the class mammalia."

What Dr. B. calls the true chorion, then, and Coste, others, and myself, the vitellary membrane, is supposed by Coste (according to Dr. B. correctly *) to become the chorion in the uterus. When I wrote my first memoir, I also participated in this opinion; my subsequent researches, however, as detailed in my second memoir, proved the incorrectness of it †

Baer considered the outer membrane of the body he discovered in the ovary analogous to the membrane of the shell in the bird's egg; and he entertained a peculiar notion regarding the vitellary membrane, both of birds and mammals. On this opinion I remark (in describing the ovum of birds), in my first memoir:—"The yelk consists, at first, of a granulary membranous sac, within which is contained a fluid with granules suspended in it. The vitellary

* At the meeting of German naturalists, held at Prague, in 1837, M. Coste gave a short exposition of his views regarding the ova of the mammifera. Being present, I combated the opinion that the membrane in question forms the chorion, and described the origin of the chorion as I have laid it down in my paper in the Philosophical Transactions for 1837. Professor Purkinje, who was president of the section for the day, remarked, that my views were more consonant with analogy, but thought further observation desirable. In reference to Coste's opinion, that the chorion and vitellary membrane are the same, Dr. A. Thomson (Contributions to the History of the Structure of the Human Ovum and Embryo before the third week after Conception, with a description of some early Ova, Part I., in Edinburgh Med. and Surg. Journal, for July, 1839) remarks, after speaking of M. Coste's error regarding the formation of the amnios, "In subsequent parts of his work, the confusion introduced by M. Coste's considering the chorion and vitelline membrane as synonymous, is altogether surprising in one who has enjoyed such excellent opportunities of studying the subject of development, and who has given to the public several new and valuable observations regarding this branch of science."

† Having founded no argument on this view, the contradiction of it involves no other.

membrane is at this period extremely thin and transparent, and adheres very closely to the inner surface of the capsule. From these circumstances it is not readily seen, unless carefully looked for with the assistance of a magnifying glass. It is from not having noticed it at this early period, that Baer has mistaken the granulary membranous sac of the yelk for it. Thus he says, 'vitelli membrana hoc tempore crassissima et granulosa est ita, ut optime mereatur nomen *membranæ granulosæ*, quam Purkinje quoque ita describit.' This granulary membrane, he supposes, divides afterwards into the proper vitellary membrane, and a granulary layer forming the periphery of the yelk. His words are, 'Posthac membrana granulosa in stratum externum læve, continuum—membrana vitelli puta—et stratum granulosum, vitelli peripherium efficiens, sejungi mihi visa est.'" In regard to Baer's application of this opinion to the mammiferous ovum, I say—"He accounts for a vitellary membrane by conjecturing that there forms, on the outer surface of the granulary membranous sac, which is the vitellus of the ovum, a thin pellicle, in the same manner that he erroneously supposes the vitellary membrane of the bird's egg is produced. There is no such pellicle as that spoken of by Baer, and all analogy leads us to suppose that the external envelope of the ovum of the mammifera does not correspond with the membrane of the shell of the bird's egg, but rather with the vitellary membrane."

A bias towards this opinion of Baer, and a desire to give congruity to the idea that the thick transparent coat of the ovum forms the chorion (a notion which Dr. B. relinquishes in his second paper, as I have already hinted), appears to have led Dr. B. to strain so hard, with such very slender evidence, to establish the existence of a membrane (which he might call vitellary) in addition to the thick transparent coat of the ovum. Dr. B. admits, that "it is not easy to demonstrate the separate existence of such a membrane in the class mammalia generally, at those periods in the formation of the ovum, when the latter is usually examined. . . . . In later stages, *ante coitum*, I have sought this membrane in vain, as a distinct structure."—P. 315.

The figures which Dr. B. gives of the pretended vitellary membrane, shew nothing but the outline of the periphery of the yelk. In regard to Professor Krause's observations, which Dr. B. quotes, in proof of the existence of a vitellary membrane distinct from the thick transparent coat of the ovum, I believe they admit of a different explanation. In reference to the point I remarked in my second memoir, "In the ova of the rabbit, &c. before impregnation, the proligerous disc, in which the ovum is embedded, is observed to be composed of a gelatinous substance, interspersed with grains, but as yet there appears no distinctly circumscribed envelope." To this I add, in a foot-note, "Dr. Karl Krause, of Göttingen*, however, in a late number of Müller's Archiv, speaks as if the gelatinous substance really formed a well-defined envelope." In referring to Krause's observations since, he appears to represent this gelatinous substance as forming the zona pellucida; but he describes within it a vitellary membrane, which latter I cannot, after examining his figure, admit to be any thing but the thick transparent coat of the ovum; and the other substance, which he describes as an albuminous-looking fluid enclosed in a proper membranula, nothing more than, as I have above said, the gelatinous-like substance in which the ovum is embedded. Dr. Barry certainly does not understand Professor Krause when he says, that having examined the ovum of the goat, he can attest to the accuracy of Krause in his representation of the membrana vitelli in this animal; adding, "I did not, however, in any instance find the membrana vitelli surrounded by a fluid, as described by Krause, but by the perfectly-formed and consistent chorion."

To continue the quotation from my second paper—"The gelatinous-looking envelope of the ovum I have just described, must not be confounded with the vitellary membrane of the ovum, which was fully considered in my former paper. * * * That it, and not the vitellary membrane, as I formerly imagined, forms the chorion, will be made evident by the following observations," &c. &c. Dr. B. also quotes Rudolph Wagner, who, he says, pointed it (Dr. B.'s so-called vitellary mem-

* Incorrectly; Dr. Krause is professor in Hanover.

brane) out to him in the cat, but does not appear to have discerned it in any other instance. I have not seen the memoir of Wagner (Beiträge zur Geschichte der Zeugung. In Abhandlungen der mathematisch-physicalischen Klasse der k. Baierischen Academie der Wissenschaften, B. ii.), and the notice of it in Müller's "Jahresbericht" contains only the following:— "Rudolph Wagner describes the ovum of the rabbit, immediately after impregnation, as it was found in the uterus before adhesion. It consisted of two membranes; the outer quite transparent, without structure, and thinner than the chorion or zona pellucida of the ovum in the ovary. The inner membrane separated from the outer after the ovum had lain in water. It was beset on its inner surface with small globules. In regard to the outer membrane he inclines to the opinion of Baer, who thinks it forms the chorion. The second or inner is the vitellary membrane." This cannot be laid hold on as pertinent to the point under discussion.

I consider it entirely inconclusive to infer, as Dr. B. does, the existence of a proper membrane of the yelk, different from that thick transparent inner membrane of the ovarian ovum, which I have described as the vitellary membrane, from what is observed to be produced on ova by maceration, viz. "when the thick chorion, imbibing fluid into its interior, becomes distended beyond the size of the yelk-ball; but the latter *retains its form*, which certainly would not be the case were not the yelk circumscribed by a proper membrane." I have delineated (fig. 6.) the appearance here described by Dr B., which he himself illustrates by a figure borrowed from Bernhardt; and I have broken up and dissected the ovum in this condition, but never found any such membrane; on the contrary, I have always found the ovum as I have described it in my first memoir, viz.: "The ovum has a soft external envelope, which is transparent and very thick; hence is produced the appearance of a broad transparent ring, forming its circumference, when the ovum is viewed with the microscope by transmitted light. Within this transparent external envelop is seen a substance composed of grains adhering together by the intervention of a delicate mucous tissue, so as to form a sac, which I have sometimes succeeded in withdrawing entire (see fig. 5) Sometimes the grains do not hold together; hence, when the external envelope is torn, they escape, and diffuse themselves in the water surrounding the ovum. Baer appears to have misconceived the structure of the external envelope, for he describes it as a hollow sphere with thin walls, separated by a transparent interval from the central part of the ovum."

Dr. Barry continues on the subject of his so-called "proper membrane of the yelk in mammals"—

"I have observed a very interesting fact connected with the proper membrane of the yelk *post coitum*, not hitherto made known, which not only adds probability to the supposition that this membrane has a previous existence, but also accords in some degree with a change known to take place in birds. I find that in the rabbit, just before the ovum leaves the ovary, this membrane, previously so delicately thin, becomes perfectly distinct and very thick; and that the chorion, imbibing fluid into its interior, becomes somewhat distended, so that a minute space is visible between the membrana vitelli and the chorion. This thickening of the proper membrane of the yelk, and the distention of the chorion, subsequently proceed much further, as is proved by the state of the ova found in the Fallopian tube. I find, also, that the membrana vitelli is still visible, and has considerable thickness in minute ova, met with in the uterus. This subject will be entered into more fully in a future paper."

This future paper has been read before the Royal Society, but not yet published in the Philosophical Transactions. In the proceedings of the Royal Society (No. 38, 1839), however, there is an abstract of it, which concludes with the following short but very important remark:—"He (Dr. B) has traced the chorion from stage to stage up to the period when it becomes villous, and shows that it is not, as he formerly supposed, the thick transparent membrane itself of the ovarian ovum, but a thin envelope closely investing that membrane, and not appreciable as a distinct structure until the ovum has been crushed * * * The chorion subsc-

quently thickens, and imbibes a quantity of fluid, presenting a gelatinous appearance."

All this, if correctly interpreted, is nothing more nor less than a refutation of the leading doctrines deduced by Dr. B. from the whole preceding series of his researches, and a confirmation of my discovery of the mode of origin of the chorion in the ova of the mammifera, detailed in my second memoir.

§ 8. After this admission of error on the part of Dr. B., in regard to the chorion, I need scarcely take any notice of the section in his first paper, entitled, "*The true Chorion, a structure superadded within the ovary in the Class Mammalia*"!

§ 9. The remaining part of the first series of Dr. B.'s Researches is occupied with the consideration of structures of secondary importance in the economy of the ovum—structures which had on that account been less carefully studied. Dr. Barry has, therefore, here found something to glean, but the value of some of his observations on this part of his subject is necessarily depreciated by the inaccurate view he first took of the nature of the vitellary membrane and chorion. I shall only take notice of one assertion:—

At p. 322, in speaking of the granulous matter which immediately surrounds the ovum in the ovary, and which he proposes to call *tunica granulosa*, Dr. B. says, "Should the existence of this structure, as a *tunic*, be confirmed by the observations of others, it will no longer be surprising that the outer line in the double contour of the thick chorion* remained so long unseen, and that this thick membrane was regarded as a 'zone,' 'halo,' or 'pellucid space.' For the same reason it will be obvious why it has been found so difficult to free the ovum from the surrounding mass of granules; though I find that these granules do not adhere to the chorion (?) they invest, so closely as to each other."

As to this *tunica granulosa* of Dr. B. I believe it to be the same substance as that described by Krause, under the name of *zona pellucida*, which I notice in my second paper as being, in the ova of the rabbit, a gelatinous substance, interspersed with grains, a substance which, it is not unlikely, is converted, after impregnation, into the chorion which I discovered. But that the outer line in the double contour of the thick chorion* did not remain unseen by me at least, and that I never regarded it as a "zone," "halo," or "pellucid space," is, I think, proved by the figures and description I gave of the ovum in my first paper. I have already given extracts bearing on this point; here I would only add the following:—"To examine the ovum properly, it is necessary to separate entirely the proligerous disc from around it. A separation sometimes takes place spontaneously, particularly if the ovary has lain a day or two in water. It may, however, always be effected by careful manipulation with fine instruments under the microscope. I am surprised that Baer says he only succeeded once in doing this."

§ 10. Having found the allegation, that the subject of embryology is one to which the attention of physiologists in this country has scarcely begun to be directed, made by Dr. Barry, in the paper containing the first series of his Researches in Embryology so ill supported†, I confess I was not prepared to read in the abstract of his second series such a statement as the following:—

"The knowledge at present supposed to be possessed of the early stages in the development of that ovum (the mammiferous ovum), consists chiefly of inferences from observations on the ovum of the bird."

"But there exists a period in the history of the ovum of the mammal, regarding which we have hitherto scarcely any direct or positive knowledge."

For a perfect and unqualified contradiction of this very bold assertion, I would refer to my memoir, contained in the Philosophical Transactions, Part II. for 1837, page 339, already alluded to.

With an abstract of the leading points contained in that memoir I will conclude this communication, already, I

* Really the vitellary membrane.—T. W. J.

* Vitellary membrane.—T. W. J.

† My first paper was read before the Royal Society two years before, and my second paper during the time Dr. B. himself tells us (p. 302) he spent in Germany, preparatory to the commencement of his own researches, "for the purpose of becoming acquainted with the known facts on animal development, and other objects of microscopic research."

fear, too long. I would, however, notice, first, a point in the abstract of Dr. B.'s second paper. I have already shown that he retracts what he said in his first about the chorion; but if I understand the abstract right, his former erroneous notions are in some degree still mixed up with his more recent views. Thus he says, "The ovum enters the uterus in a state very different from that in which it leaves the ovary; hence the opinion, that 'in their passage through the tube, the ova of mammalia undergo scarcely any metamorphosis at all,' is erroneous. Among the changes taking place in the ovum during its passage through the Fallopian tube, are the following, viz.: 1. An outer membrane, the chorion, becomes visible. 2. The membrane originally investing the yelk, which had suddenly thickened, disappears by liquefaction; so that the yelk is now immediately surrounded by the thick transparent membrane of the ovarian ovum," &c. &c.

This appears to me so inconsistent in itself, and with what is said at the conclusion of the same abstract (which I have already quoted), that I must suppose some mistake has been made in the preparation of the abstract. I will therefore make no further remark on the second series of Dr. B.'s Researches until they appear in a more complete form.

§ 11. The abstract of my paper On the First Changes in the Ova of the Mammifera in consequence of Impregnation, and on the Mode of Origin of the Chorion, as given by Müller in his "Jahresbericht" for 1837, in Archiv, &c, vol. for 1838, being very concise, I shall translate it, at the same time taking the opportunity to correct a slight misconception of my meaning.

"Wharton Jones examined the internal organs of generation of a rabbit, killed three (not two, as Müller says) days after impregnation. The ova in the tubes were surrounded with a thick gelatinous layer, so that they were 1-70th of an inch in diameter. The germinal vesicle could not be detected. That this envelope of gelatinous substance is acquired in the ovary, was proved by further observations. In a rabbit examined forty-one hours after impregnation there were *no ova* in the Fallopian tubes, nor in the uterus. On the ovaries were several Graafian vesicles, which were prominent, and filled with coagulated blood. At the most projecting point of each there was a small mammillary elevation, within which was the ovum, surrounded by the gelatinous substance, less swollen, however, than in the preceding case. The germinal vesicle was not remarked. Forty-eight hours after impregnation much the same appearances presented themselves. This substance appears to the author not to present itself before impregnation as a proper envelope; he asks, however, whether this layer be not that described by Krause. Seven days after impregnation the gelatinous-looking envelope constituted the sole covering of the yelk, which possessed only a spherical blastoderma. The cavity of the gelatinous-looking envelope was much larger than the spherical blastoderma; and on the inner surface of the former the author saw the remains of the vitellary membrane, which, according to his opinion, disappears in the same manner as in the ova of the ovipara. According to the author the chorion is developed, not from the vitellary membrane of the ovum, but from this gelatinous-looking envelope. A very young human ovum* agreed in what has just been related in regard to the rabbit, viz. that the vitellary membrane had disappeared, or been resolved into a gelatinous cellular tissue, which filled the chorion. Imbedded in the gelatinous cellular tissue, towards the extremity of the ovum, was a small round body—the spherical blastoderma†."

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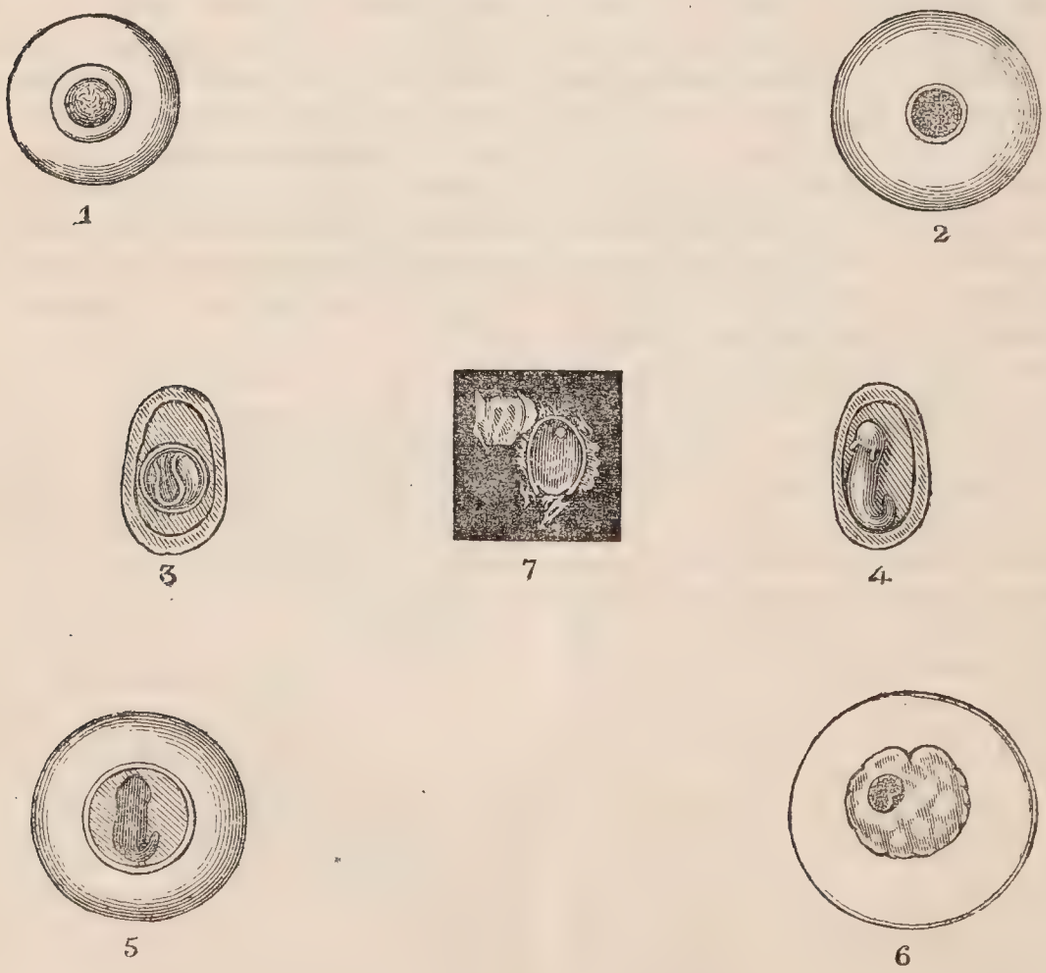
* Dr. Allen Thomson (Contributions, &c. already quoted, in Edinb. Med. and Surg. Journal for July, 1839) remarks (p. 122) of this ovum—"In a paper on the early condition of the ova of mammiferous animals, published in the Philosophical Transactions of London, Mr. T. W. Jones has described a very small human ovum, sent to him by Dr. Mackenzie, of Glasgow, and which I am inclined to regard as one of the earliest, if not the very earliest, human ovum, that has been accurately described, the record of which has come under my notice."

† Müller has transposed, in his abstract, the account of the human ovum,—a circumstance which makes it appear as if I supposed the point of its resemblance to the ovum of the rabbit consisted in its chorion being filled with a gelatinous cellular tissue. The disappearance of the vitellary membrane, and the chorion remaining the sole envelope, are the circumstances of agreement between the ovum of the rabbit seven days after impregnation and the human ovum. What is here called a *gelatinous cellular tissue* was evidently no other than the *reticular tissue* of Velpeau, found in more advanced ova between the chorion and amnion.

TABLE I.*—*Figures which illustrated the paper on the Ova of the Mammifera before Impregnation.*



TABLE II.*— *Figures which illustrated the paper on the Ova of the Mammifera after Impregnation.*



* The measurements here given do not lay claim to any very great accuracy, as they were made with a micrometer glass under the simple microscope.

Description of figures in Table I.

Fig. 3 represents the human ovum as seen under the microscope by transmitted

light; it is magnified forty-five diameters. On one part of its surface a small spot is seen, which is the elevation on the side of the germinal vesicle.

Fig. 4 is the ovum still surrounded by the proligerous disc, magnified fifteen diameters.

Fig. 5 represents the outer envelope of the ovum lacerated, and the granulary membraneous sac composing the yelk drawn out.

Fig. 6 exhibits a human ovum magnified forty-five diameters, in which the granulary sac is so much contracted, that it does not fill up the whole cavity of the external envelope*. The spot on the surface of the granulary sac, which may be considered as the cicatricula, is the elevation on the side of the germinal vesicle.

Fig. 7 represents, within a square area, the human germinal vesicle, magnified forty-five diameters. On one side of it is seen the small elevation.

Fig. 8, a human ovum, magnified forty-five diameters. In it the grains composing the granulary sac were in such small quantity, and adhered so little together, that the whole germinal vesicle is seen shining through the outer envelope.

Fig. 9 is a diagram of a section of an ovum, representing the thick external envelope, within which is the granulary sac, and connected with the inner surface of the latter the germinal vesicle.

Fig. 10 represents a human ovum, which I found in the ovary of a married woman of about 30. It is somewhat like two joined together, but there is only one germinal vesicle.

Description of figures in Table 2.

Fig. 1, an ovum found in the Fallopian tube of a rabbit the third day after impregnation, magnified forty diameters.

Fig. 2, the ovum of the frog when recently laid, magnified two diameters.

Fig 3, the ovum of a water-newt, in which development has commenced, magnified rather more than twice.

Fig. 4, a diagram shewing the embryo of the newt after the vitellary membrane has given way, contained only within the cavity of the substance, which is added to the ovum in the oviduct.

Fig. 5, a diagram shewing the embryo of the frog still surrounded by the vitellary membrane, as well as the gelatinous substance, which is added to the ovum in the oviduct.

Fig. 6, an ovum found in the horn of the uterus of a rabbit seven days after impregnation, magnified forty diameters.

Fig. 7, a human ovum thrown off at the third or fourth week; natural size.

* I believe the distension of the external envelope, by the absorption of water, and not the contraction of the granulary sac, may be the more correct explanation of the appearance delineated.

A CASE OF

SECTION OF THE HAM-STRING TENDONS,

FOR THE

CURE OF CONTRACTED KNEE-JOINT.

By Benj. Phillips, F.R.S.

Surgeon to the Marylebone Infirmary, and Lecturer on Surgery to the Westminster Hospital School of Medicine.

[*For the London Medical Gazette.*]

The practice of cutting tendons for the relief or cure of many deformities is so widely spread, and every new application of the principle seems to be adopted with so much avidity, that I trust I shall not be deemed to be occupying time and space unprofitably, by a very few prefatory observations, previous to the statement of the case which is the immediate subject of the present communication.

The dictum of Hippocrates, "that tendinous structures cannot be cut with impunity," held almost exclusive sway over men's minds up to nearly the end of the last century. Some persons, among whom were Paul Barberette, Meekren, and Abraham Titsingh, however, denied their sensibility, and maintained that wounds of these structures produced no general reaction. Others, among whom were Paré and Petit, believed that such wounds were very dangerous, producing spasm and great general reaction. Others, such as Boerhaave, Cowper, Platner, who, adopting the opinion of Galen, that tendons arose from nerves, taught that injuries of tendons are as serious as those of nerves, producing tetanus and other spasmodic affections. It was the apprehension so entertained which, it would seem, prevented Marianus from using the knife, in making way for the stone to be extracted from the bladder, and induced him to prefer tearing those parts to a sufficient extent by means of his dilators. Indeed, except in the case of a few bold innovators, such as Tulpius (1641), Roonhuysen, who cut the tendon of the sterno-mastoid successfully for the

cure of a case of wry neck (1674), Blasius (1677), Meekren (1788), and Ten Haaf (1791), tendinous structures have been respected up to very late times; for the momentary resuscitation of the principle by Thilenius in 1784, by Michaelis in 1811, and by Sartorius in 1812, did not cause the adoption of the system.

Petrini, in his memoir, "Sull' insensibilita ed irritabilita," published in 1735, seems first to have demonstrated that tendons and aponeuroses might be "dissected" without fear; but certainly the prevalent opinion was opposed to him; and the memoir of Jacques Fr. Chat, seems to have been an epitome of the opinions of the time on the subject. He concludes by saying, "On doit donc éviter la section des tendons" (1742.)

No very clear conviction seemed to exist on men's minds with regard to the possibility of union in divided tendons until the time of Titsingh, who said that wounds of tendons were united by the interposition of callus, which is organised, and by which they are cured in a few days. Stalpart van der Wiel (1777) also states that they are united by callus, like bone. Duchanoy (1775) and Bezoet (1765) state that at first a nodosity is distinguished, which soon acquires considerable consistency, and constitutes a firm bond of union.

These opinions obtained more consistency when maintained by Moore, Prochaska, Gordon, Boyer, and Thomson, who stated that the fibres of regenerated tendons are not disposed parallel the one to the other; that they are less glistening; and that the cicatrix is thicker than the tendon. Murray (1787) said that he had seen divided tendons unite like muscles, by means of plastic lymph, which becomes organised and transformed into a very dense cellular tissue. Bichat, in speaking of union after section of the tendo Achillis, says, that from the two ends of the tendon a fibro-albuminous matter is exuded, which is gradually condensed, and unites one to the other; that this matter is endowed with a sort of "ductility," which allows of its elongation and extension.

No man sought more fairly and completely to work out this part of the subject than Delpech. To satisfy himself of the principles upon which he ought to act, he made many experiments upon brute animals; and the knowledge so acquired he successfully applied to man; and it is to me inconceivable how his merits, as connected with this subject, have been so greatly overlooked. Some years afterwards Stromeyer, in conjunction with Günther, a veterinary surgeon of Hanover, went over the same ground with Delpech; he applied the principle successfully to man, and his success caused its general adoption.

The mode of union was carefully observed by Duval (1837), who says, "As soon as a tendon is cut, the extremities are separated by muscular retraction. Some hours after, the surrounding cellular tissue is inflamed; twenty-four hours after, this tissue is bathed in serosity, and looks œdematous. The skin participates in this turgescence. Sometimes we find a mass of red matter, not unlike a clot of blood, between the ends of the tendon. From the cellular tissue at the circumference of the extremities of the tendons, filaments set out towards a fibrinous matter, which, however, is not always met with; but the cellular tissue is always inflamed during the first seven or eight days. Thirty-six hours after the section, the substance between the extremities exists in the form of a ligamentous membrane, much more developed superiorly than inferiorly. The third and fourth day this intermediate tissue acquires much thickness, and becomes, as it were, fleshy, dark red internally, whitish at its circumference. From the sixth to the eighth day it offers the same form with the tendon: the tendinous organization of this substance proceeds from the exterior towards the interior, by the condensation of cellular laminæ. From the fifteenth to the twentieth day this organization is complete, its red colour no longer exists, and this new-formed tissue is as solid and as resistant as the tendon itself, from which it differs only in colour, which is less white; and sometimes by a little less thickness." We may complete this part of the subject by a short quotation from the commentary of Ammon on the same subject:—"The tissue thus formed fills, by the end of a fortnight, the same functions as a healthy tendon, with this exception, motion is a little more difficult, in consequence of the new substance being a little less elastic than the old, and also in consequence of its ad-

hering, to a certain extent, to the surrounding structures."

One important question still remains to be discussed. We have ascertained that a divided tendon will unite firmly, and that at the end of a certain time the medium of union can scarcely be distinguished from the original structure. We believe that in fractured bones separation of the fractured extremities cannot be carried beyond a certain point without involving the danger of non-union; what the extent may be it is not easy to define. How far the extremities of tendons may be separated with impunity, is an important question in our subject.

If the section of the tendo Achillis be made, it will unite by means of a very fine dense medium, even though the distance between the cut extremities be considerable. Molinelli states, in the Memoirs of the Academy of Bologna, three cases, which are good evidence of this fact. In one the tendon had been cut at two fingers' breadth from the calcaneum; the superior portion was retracted, and the inferior portion, with the exception of two lines, was removed; yet the two portions were perfectly united without shortening. Clement, of Avignon, according to Heister, saw a case in which the separation of the two ends, in a similar case, was above two inches, and yet the union was firm and complete. But, as might be expected, there is a limit beyond which this separation is imprudent. What that limit is, in man, I do not know; but in dogs about three inches is the maximum point, at which the development of a proper bond of union seems to be practicable; at least, in all the cases I have known, it has failed when the separation has extended to four inches.

This is a point of great importance in deciding whether extension should be promptly and firmly employed after the section of the tendons or not. Some persons recommend the immediate application of the principle; and further, that it should be energetically employed. If the reasoning could be applied to the human subject which is derived from experiments on brute animals, it is clear that it would be imprudent to produce a separation between the cut extremities to the extent of four inches; that it is not easy to determine how much short of that, separation might be employed with impunity. I have known a separation to the extent of nearly two inches to be made in the human subject, immediately after the section of the tendo Achillis, without any inconvenience; I have known a separation of four inches in a dog, without union.

In this state of the question I think a middle course best. Some men do not employ extension for many days—until, in fact, the medium of union is organized; others apply extension at once. In the one case, the medium may not readily yield to extension; in the other, the medium may not connect the cut extremities.

Such are the preliminary remarks which it seemed to me desirable to make, for the purpose of fully opening the question, and also to facilitate the comprehension of the subject: to prevent unnecessary apprehension on the one hand, to induce proper reflection on the other. Whether the recklessness with which, in the present day, these structures are attacked — which has caused the section of the tendo Achillis at least 500 times since 1836—will be productive of as much good as the advocates of the operation expect, is more than doubtful. The tide has set in strongly in its favour, but I apprehend a reaction is not distant; and for that reaction the indiscreet advocates of the operation will have to answer. Failure has already been not unfrequent; and it behoves us, therefore, to avoid bringing into disrepute a system from which much good has already been derived, by employing it in cases where its success would be at best problematical.

I will now proceed to state the result of the section of tendons, as a means of treating certain cases of what is termed false ankylosis. By this term I merely wish to convey that condition of an articulation in which its motion is very sensibly impeded, or almost entirely prevented, by rigidity of the soft parts connected with the joint. This rigidity may affect only the tendons destined to move one bone on another, or it may be accompanied by a similar state of the ligamentary tissues. This condition may be brought about by many causes; it may be occasioned by phlegmonous inflammation of the cellular tissue about the joint; that inflammation may be communicated to

the lubricating apparatus of the tendons, may disorganise the synovial sacs, and terminate by causing an adhesion between the tendons and their sheaths. It may be brought about by long inaction in bed-ridden people, the limbs being in a state of flexion; or by repeated attacks of gout or rheumatism.

In the case I am about to detail, the patient was a young woman, of the age of 29, whose general health was good. Five years ago she suffered much from rheumatism, which affected principally the knee-joints and the hands. From this affection she suffered for two years and a half, during which the leg of either side became more and more flexed upon the thigh, and extension was impossible. A great variety of mechanical means were used, for the purpose of endeavouring to procure extension, but without the slightest amendment. She then proceeded to Bath, underwent the usual course of treatment there, combined with attempts to extend the limbs by means of certain modifications of Amesbury's apparatus, but returned home, no better than she was when she left it. On her return she was placed under the care of Mr. Crellin, of St. John's Wood, whose treatment dissipated the remaining traces of rheumatism; but the contraction of the ham-string tendons remained unchanged. During the succeeding two years and a half her general health continued good, and she experienced no further attacks of rheumatic pain.

In January 1839, Mr. Crellin consulted me in the case. I found her almost bed-ridden, the right leg presenting with the thigh an angle of 55 degrees; beyond that point extension could not be made, but flexion might be proceeded with until the heel very nearly came in contact with the buttock. The left leg was flexed to a much less extent than the right, though the heel of that side is two inches and a half from the ground: it was, however, three inches and a half longer than the right. The joint appeared on either side to be unaffected, and no thickening was apparent. At the first view it seemed as if the patella were slightly displaced laterally; but this was more apparent than real, for in the leg upon which I operated the patella is now perfectly natural.

When the hand was placed upon the posterior part of the thigh, from the tuberosity of the ischium, the muscles were tense and hard, and in the ham the tendons were like extended cords.

Nine months ago, when the case was first mentioned to me, I had recently seen an account of an operation performed at Antwerp, for the purpose of overcoming the resistance offered by the flexor muscles; and when I consulted with Mr. Crellin, I at once recommended a somewhat similar operation in this case, and as the patient's health was good, and as suspense would not probably improve her condition, the operation was performed on the succeeding day.

The Antwerp case will be found detailed at the conclusion of the paper.

I saw possible inconveniences from performing the operation as practised by Lutens, of Antwerp, and I saw no difficulty which could attend the section, made by means of the smallest external opening which would admit of the introduction of a proper instrument—such as is used in the section of the tendo Achillis.

Accordingly, on the 10th of January, in the presence of Messrs. Crellin and M'Ilree, I effected, without much pain or difficulty, a section of the tendons of the semi-tendinosus and the biceps, which allowed of an immediate extension to the amount of between two and three inches, and caused the disappearance of the tension at the back of the thigh. The operation was performed in the following way:—The patient lay, as nearly as she could, upon the face, and extension was made as far as possible, so as to produce a very marked cord-like tension of the ham-string tendons. A very straight blunt-pointed knife, such as is used by Bouvier in the section of the tendon Achillis, was glided on its flat under the tendon of the biceps, between it and the bone; its cutting edge was then directed upon the tendon, a sawing motion impressed upon it, and the knife soon passed through it, without injuring the integuments. It immediately retracted, to the extent of an inch. A similar course was taken with the semi-tendinosus. No blood was lost, and strapping was employed to bring together the lips of the two small incisions. All went on very satisfactorily, and I proposed to begin extension on the third day; but, in preparing for this, I found I had still resistance to

overcome: the semi-membranosus would not yield, and I at once decided to make a similar section of its tendon. The same means were employed as before, but the different portions of this muscle are not so easily cut; however, I continued to incise so long as I found this muscle offering resistance. This was soon accomplished, with comparatively very little suffering; its section allowed of our increasing extension by another inch. All went on very well, and in two days more extension was commenced, with a modification of Amesbury's apparatus. For some days matters seemed to proceed propitiously, but then she complained much of pain on the internal surface of the tuberosity of the tibia at the point of insertion of the cut tendons; this was subdued by small doses of morphia, and the screw was very sparingly used. When the screw had been used for some days, to the amount of a single evolution daily, she complained of pain at the patella; this was borne for a few days, but at last increased in severity, though there was no tumefaction nor much heat about the joint. I now divided the knee-cap of the instrument into two portions; one of which was applied above, the other below the patella. Gradually all pain and discomfort ceased, and soon I had the very great comfort of finding that the turns of the screw were nearly exhausted—that extension was almost complete. In a few days I removed the instrument, and discovered that there was scarcely any tendency to contraction; that the muscles were capable of extending and flexing the leg at will, though at first very slowly. Every day the power increased—every day the extension was more perfect; and as much more rapidly produced as she bore more weight upon the affected limb. At this time the foot of the affected leg, and particularly the tarsal portion of it, became the seat of subacute rheumatism, which still affects and prevents her from using it; but happily there is no disposition in the knee-joint to relapse into its former condition.

Some time since, I obtained a Thèse sustained at Paris, by M. Duval, brother of the orthopedist of that capital; in which are detailed seven cases upon which his brother had operated.

The first was treated in October 1837. The patient was a boy of eleven, who, at the age of five, suffered from phlegmonous inflammation around the knee-joint, with abscesses, which were followed by sinuses which continued open during the next four years. Motion at the joint was obscure. On the 10th of October he divided the tendons of the biceps, the semi-tendinosus, and membranosus muscles. At the end of three weeks, the leg was extended on the thigh, and the boy was able to walk without crutches.

His second patient was a boy of twelve. At five, he hurt the left knee. The injury was followed by inflammation and abscess, which continued to affect the neighbourhood of the joint for five years and a half, when the sore cicatrized. The leg was at that time so flexed upon the thigh, that a strait line, drawn from the middle of the posterior part of the thigh to the heel, was removed nearly six inches from the ham. The tendons of the biceps, the semi-membranosus and tendinosus, were cut through, and in six weeks he was enabled to walk pretty well.

The third patient was six years old. At two years and a half he had symptoms of meningitis, which paralysed the left side of the body. The paralysis of the lower extremity was accompanied by contraction of the ham-string tendons. The same tendons were cut as in the former cases. At the end of twenty days complete extension could be made, and at the end of seventy-three days he could extend it himself; but the paralysis interfered with progression.

The fourth case was that of a boy, who, at two years old, had a large boil in the ham; suppurative inflammation extended around the joint; fourteen or fifteen abscesses had been opened during the succeeding five years. At the expiration of this time all the abscesses closed, and the articulation became sensibly smaller and less painful; but the leg was flexed so as to describe with the thigh a right angle. A section of the same tendons as in the former cases was made, and allowed of immediate extension to the amount of two inches. An extending apparatus was employed, but eight months was required to restore it to its natural direction.

The fifth case was that of a young woman of twenty, who, seven months and a half before, had great itching at the knee. It swelled, and presented

ampullæ almost like those in superficial burns. The vesicles disappeared in a single night, but the swelling increased. Leeches, blisters, and caustics, were applied with benefit, but a certain portion of tumefaction persisted. During the whole of this time flexion had been more and more marked, and at the time of the operation the limb described a right angle. A section of the biceps and tendinosus was made; an extending apparatus was employed, and in thirty-two day she began to walk.

The sixth was a man, aged 35, who had paralysis of the right inferior extremity; his was accompanied by considerable flexion of the leg on the thigh, and the ham-string tendons were tense. In this case, the impression produced on M. Duval's mind was, that the contractions depended upon the muscles of the calf, which are also flexors of the thigh upon the leg. A section of the tendo Achillis was made, and in six weeks the cure was complete.

The last case was that of a patient, aged 20. Three years ago he fell on the right knee, which became inflamed; and while he kept his bed the leg became flexed; it remained so many months, and when he got up, the toe alone rested on the ground. Many means were ineffectually tried to restore the limb to its natural condition. The three tendons of the ham were like tense cords; they were cut, and at once the limb could be extended to the amount of two inches; extension was employed, and in twenty-five days the limb was perfectly straight, and the patient could walk on it. Three or four days after the operation acute inflammation was developed at the knee; twenty-five leeches and emollient cataplasms were applied, and in eight days it was dissipated.

In the month of February, 1837, M. Lutens divided the ham-string tendons at the hospital at Antwerp. The case was that of a man named Brilet, a sailor, who, in July, fell from near the mast-head to the deck of a ship, the back of his right thigh coming in contact with the jib-boom; the contusion was great, the extravasation of blood considerable. In October he was placed under the care of M. L.; he found no trace of inflammation remaining; but the back of the thigh, from the ischium to the knee, felt as if cords were tightly drawn along it. The leg flexed upon the thigh, and extension impossible. In the attempt to make extension, the tendons became extremely tense, and no plan which was adopted produced any relaxation. If he tried to walk, the toe rested alone on the ground, and was turned outwards.

The articulations of the hip and the knee were free from disease. All means of procuring extension failing, M. L. consulted with M. Gougée and M. Decondé, who at first thought nothing could be done to relieve this condition. Afterwards, M. Decondé concluded with M. L. that it might be well to make an incision through one or other of the muscles near the ischium. Two months elapsed, when M. L. decided to make an incision on either side of the knee. A bistoury upon its flat was glided under the semi-tendinosus tendon, about two inches above its inferior attachment; the edge was then directed upon the tendon, which, with the aponeurosis and skin, was at once divided. On the outer side, the sheath of the biceps was exposed, and the muscle cut through. The next day all hardness at the back of the thigh had disappeared, and the leg could be made perfectly straight, and an immoveable bandage was applied to maintain extension. He now moved about in the ward, and on the thirtieth day the wounds were dressed with dry lint; cicatrization proceeded slowly. Three months afterwards he could walk pretty well, and without a stick; some little difficulty was experienced even then in flexing the leg upon the thigh, but still it could be accomplished.

Once the operation has been performed by Dieffenbach, but I am not in possession of the particulars of the case; once by Mr. Liston, without success; once by Dr. Little, with very partial success.

I know of no other case in which the operation has been performed; but those which I have detailed present a sufficient variety of causes of contraction; the operation has not been attended by any unpleasant consequences, and the results have been extremely favourable.

Towards the autumn of the present year I propose to make a section of the tendons in the left ham of my patient; and I shall probably lay before the profession the result of that operation.

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AGENCY OF SOUND ON THE EAR.

To the Editor of the Medical Gazette.

Sir,

If I have in any measure been fortunate enough to elicit truth, by aiming at simple facts, this may in some degree aid the more able physiologists, on whose experiments and opinions I have presumed to animadvert in a more perfect analysis of the human ear; which considerations will, I trust, induce you to indulge me by continuing my subject in your able work.—I am, sir,

Your obedient servant,

W. Shand.

Aberdeen, 28th June, 1839.

In comparing the physical properties of the ear with the operations of sound in external bodies, every part and principle to be met with oppose the idea of intelligent and predominant sounds entering by the meatus externus and the temporal cavity.

I have already explained why, according to understood principles, the external surface of the auricle cannot collect the sonorous atmospheric undulations with consistency.

Treviranus* is of this opinion, but could not bring himself to believe that the phenomena operated by the vibration of the solids in reference to aerial action; and yet the mode of communication by the stethoscope affords sufficient proof of intelligent sounds entering by the solids. Philosophers have so long and uniformly impressed on the minds of successive generations for many centuries, that sounds are collected on the surface of the auricle, and must make sonorous impressions on the membrana tympani, that all reasoning and all experiments are based on these erroneous hypotheses. They sever bodies from each other, and divest them of their original characteristics, in order to coerce nature to their will.

Savart†, in his experiments on the membrana tympani (believing it to be powerfully sonorous), severs it from the temporal bone, divests it of extraneous matter (cerumen and moisture), by which, in my mind, he changed its properties, because we cannot in any manner change the form, texture, or surface of any material without altering its sonorous properties. If this membrane be sonorous, it must be much more so when connected with the temporal bone than apart from it. If the pelt of the military drum were separated from the other parts, would not vibratory action and sound be impaired? Were the strings of the violin separated from the body of the instrument, would any musical sounds be produced? The sounds produced by the tuning fork are exceedingly more intense when the stem is in contact with another hard body, than if held between the finger and thumb. The principles are the same in all these cases, and yet M. Savart not only separates the temporal bone from this membrane, but he separates the membranous parts; for the external fold of the membrana tympani is a continuation of the cuticle which lines the meatus.

One part of the same string or membrane cannot be sonorous and the other non-sonorous.

I have already adverted to many of the obstacles which are in the way of atmospheric undulations reaching the tympanic membrane in a sonorous state, and consequently with their original character; and these obstacles multiply as we advance. If it be admitted that the cerumen which covers the cuticle of the meatus is soft, yielding, and has a tendency to damp sound, it cannot have this effect on the skin which lines this canal, without producing the same effect in the tympanic membrane, so intimately connected with the cuticle, were not a portion of the cerumen found throughout the whole of the internal parts of this cavity. In any case, the experiments of M. Savart, by separating these bodies, and removing the cerum, is a dereliction of nature, and cannot exhibit any satisfactory results. It may, then, be observed, that, according to the opinions of Professor Young and Dr. Neil Arnott, an elliptical tube, such as the meatus externus, cannot produce musical sounds, because of the irregularity of its inflections. For the same reason, it cannot consistently conduct speech; and similar objections exist to the elliptical form of the membrana tympani. Were this membrane perfectly sonorous, as supposed, it would produce prolongation of sound inconsistent with speech, because no repetition of sound from a single impulse can be permitted. Where do we find that articulate sounds

* See Prof. Todd's Cyclopædia, vol. ii. p. 574.
† Ibid. p. 573.

are communicated to the sense of hearing through a flat sonorous body, resembling the head of a drum, or the membrane alluded to? In every case, externally, speech must be reflected by a body of certain solidity and peculiarity of texture, not yielding a second reflection of which the ear is sensible. There could not be a more unhappy contrast than that of the central ear with the musical drum, for the following simple reasons:—There can be no repetition of external reflection of a single letter, in speech, upon the ear without a conflict and confusion; but a musical drum must give out a succession of sounds from a single impulse.

The cavity of the tympanum, and the chain of bones in it, possess no consistency of character analogous to any external bodies which conduct sound without change from its original nature, the walls of this cavity being indescribably irregular, and the chain of bones not pointing uniformly towards their connecting parts between the membrana tympani and the fenestra ovalis, but diverging in various directions.

Where is it found that sound passes through an aerial medium, surrounded by solids, without its character being modified by the nature and form of the solids? After the human voice has been produced in the wind-pipe, and passes through the larynx, and over the epiglottis, is not speech or song modified by the form and motion of the mechanism of speech, which must be lubricated by saliva, a peculiarly glib material, in order to produce a clear and agreeable sound; but if this mechanism be dry, and deficient of this glib slimy property, the surfaces over which sound passes being dry and rough, the sound produced is also rough and harsh; and shall it pass through a variety of bodies in the ear previous to reaching the auditory nerve, which are comparatively dry and rough; some hard, soft, and flexible; some adhesive and yielding, without partaking of the nature of these? Similar causes and effects, such as I have just alluded to, are exemplified throughout nature. In every apartment that we enter, sounds are found to partake of the nature and form of the surrounding bodies, and according to their proximity to the ear. I have pointed out the effects of hard asperities on the walls of an apartment by what is experienced from this cause, in St. Andrew's church, in Glasgow, in a short paper published in the Scottish Guardian.

The difference of effects alluded to may be understood by experimenting on a piece of thin deal board, which produces rough harsh sounds, if used as it comes from the saw; but, if planed on its surface, it gives out a clear and distinct sound.

Sound operating upon an uneven surface is reflected in conformity to the position of that surface: it is divided in a certain ratio by a single hair in the ear, and by a square pillar in an apartment. The principle is the same, and the influence of external bodies is greater in all cases as they approximate to the ear; and it must be still more so in the ear, according to the number and extent of diverging surfaces.

I would here again revert to the remarkable facts, that the tympanic membrane, and the mechanism of bones in the tympanum, may be taken down without material injury to the sense of hearing; but neither the organ of hearing, nor the mechanism of speech, can be deprived of any considerable portion of moisture, without deprivation of the power of speech and hearing. It may also be remarked, that most physiologists attribute little conducting power to water, and have, in regard to its influence in these organs, said little; but in order to show the sonorous property of water at the temperature of the human body, I have, in the Medical Gazette of the 9th Feb. last, adverted to the singular intensity of sound in the river Cobra, in Jamaica. That it is an indispensible agent in the human ear cannot be doubted, when we consider the place which it occupies in the labyrinth, and that it is the last medium in connection with the acoustic nerve, where its influence must be more uniform and delicate than by contact with any hard body. Whether the transit of sound be by the aerial passages, or by the surrounding solids, it must necessarily be communicated to the acoustic nerve through the fluid in the labyrinth.

I must, in the meantime, conclude, but shall hereafter recur to this interesting subject, and make such observations as may occur to me in relation to the physical properties, and the operation of sound, in the labyrinth and the Eustachian tube, and perhaps make some remarks on the organic parts by which sound is produced and speech formed.

CASE OF

DISLOCATION OF THE FEMUR INTO THE ISCHIATIC NOTCH,

WITH FRACTURE.

The Dislocation reduced after the lapse of six weeks.

By Charles Thornhill, Esq.

Read before the Hunterian Society, June 26, 1839.

[*For the London Medical Gazette.*]

The great disappointment and annoyance which have frequently resulted from the attempt to reduce dislocations of some standing, induce me to draw up the following history, as it appears to my mind to present some instructive points, not altogether undeserving the notice of the practitioner. It is true it may be said that there is nothing novel either in the case itself or in its mode of treatment; but when the length of time during which the patient was subjected to the relaxing power of the pulleys, together with the hindrances that occurred to thwart our purpose, are taken into consideration, we have at least one useful lesson afforded us, that we ought not, under similar circumstances, to content ourselves with mere ordinary efforts, but should steadily persist in the employment of means, to the extent that is consistent with prudence and safety. Here it will be seen that we had begun to regard our attempts as fruitless, and, in depair, were just on the point of removing our apparatus, when, in a happy moment, the bone was distinctly heard to re enter its natural socket. Had we been influenced by the desire of the patient, and yielded to his entreaties but a few moments earlier, the poor fellow would, in all probability, have remained a cripple for the rest of his days, and we should have had to deplore, as often as we met him, the imperfection and uncertainty of our surgical art.

Sir Astley Cooper has observed, that of the various dislocations occurring at the hip joint that into the ischiatic notch is the most difficult to reduce; and it is readily conceived that this difficulty must be proportionally increased with the length of time it has been allowed to remain. This distinguished surgeon, in his great work on the subject, has recorded a case where the reduction was easily accomplished after the lapse of fifteen days; but certainly the cases are rare in which a satisfactory result has been obtained after so long a period as *six weeks*. Indeed I am not aware that there is even another case on record where a successful attempt had been made after such a lapse of time. Besides, in the present instance, we had to contend against the difficulties arising from a recently fractured thigh; and this rendered it necessary that the pulleys should be applied with extreme caution, lest any sudden or undue extension might occasion a separation of the parts so newly united.

It requires no apology for having stated so fully the particulars of the case, because I am convinced that, although the proceedings that were adopted are perfectly familiar to the generality of practitioners, we all stand in need of being frequently reminded of the first principles of our profession, as well as of being encouraged in the prosecution of our arduous duties.

Samuel Sheldon, æt. about 40, of short stature, but strong muscular make, was at work as usual at Tibbington Colliery, on the morning of the 6th of February, when a large fragment from the excavated roof of the pit became disengaged, and fell upon him. The portion that struck him was supposed to be about five or six hundred weight, which, coming in contact with the lower part of his back and right hip, while he he was in the act of leaning forward, spent itself out upon the thigh of the same side. He was nearly stunned by the violence of the shock, but was immediately drawn up out of the shaft, and conveyed in a chair to his residence in this parish—a distance from the colliery of between two and three miles.

Mr. Roberts, the surgical attendant of the colliery, having at the time some pressing engagement, sent a note to request that I would take the charge of the case. Accordingly, in somewhat more than two hours after the occurrence of the accident, my brother saw the patient, and, on examination, discovered a slightly oblique fracture of the right femur, at the upper third of the bone. Several severe scratches and bruises were visible about the loins and pelvis, and it was evident that the hip also had sustained some considerable injury; but in consequence of the great tumefaction of the soft parts it was impossible to ascertain accurately the extent of the mischief. The fracture being reduced, the limb was dressed and secured in the

usual manner, and afterwards placed in the straight position. I had not an opportunity of seeing the patient until a week or more subsequently, when the swelling around the hip had so far subsided as to enable me clearly to distinguish a dislocation of the head of the femur from its appointed acetabulum. No attempt, however, could at present be made for the accomplishment of reduction, on account of the want of necessary firmness and stability in the shaft of the bone; and it was resolved to wait patiently until reunion between its fractured extremities should become firmly established, and then to adopt such means as might be deemed most desirable to meet the urgency of the case. Every thing continued to progress in a very satisfactory manner; but notwithstanding all our entreaties, the patient could not be prevailed upon to remain in bed longer than a month.

After the expiration of the fifth week it was proposed to endeavour to effect reduction; but at the suggestion of a neighbouring medical friend, who thought that the restorative powers of the system had hardly yet contributed sufficient strength to the limb as to enable it to offer resistance to the mechanical force which would necessarily be appied, the operation was deferred for another week. The day was at length fixed for the trial of our means; and Mr. Roberts, of Dudley, and Mr. Lees, of Wednesbury, were kind enough to render their valuable assistance on the occasion. We assembled for that purpose, therefore, on Wednesday morning, the 20th of March, exactly six weeks from the period at which the accident had happened.

The patient was directed to undress, in order that the limb might be minutely examined by the gentlemen present. When he stood upright, and allowed the left leg to support the weight of the body, the unsound limb was observed to be about one inch and a half shorter than the other; and from the great trochanter being felt rather in the rear of the acetabulum, and from the inclination inwards of the knee and the foot together, with the pointing of the great toe towards the ball of that on the opposite side, it was at once pronounced to be a luxation into the ischiatic notch. But independently of these diagnostic marks, the emaciation that had supervened upon the accident was so great, that the head itself of the femur could be felt lying in that foramen. The muscles around the joint seemed remarkably flaccid; and as there was a greater power of motion than is ordinarily witnessed, it was anticipated that we should have but little difficulty in effecting reduction. The sequel will shew whether or not our expectations were realized. A door, with a blanket thrown thereon, was placed upon the bed, and two staples having been driven into the opposite walls, the patient was instructed to recline upon the door on his left side, with the right shoulder drawn one-third backwards. This latter precaution was deemed necessary, in order to prevent his being drawn forwards upon his face by the first application of the extension. A well-padded band was then passed between the thighs close upon the perinæum, and this was affixed to the staple at the back of the patient, when the pulleys being secured to the opposite staple, as well as to the rings of the knee-belt which had been previously applied, extension was made in the usual manner in a line directly across the middle of the uninjured thigh. After this had been steadily and perseveringly employed for upwards of half an hour, without occasioning much relaxation in the muscles, it was thought advisable to administer the antimonii potassio-tartras, in doses of a grain, repeated at intervals of a few minutes, until nausea should be fully obtained. When three or four doses had been given, the head of the bone began to advance towards the acetabulum, and I could distinctly feel it disengaging itself from its recently-formed attachments. At this stage of the operation, my brother having passed a strong band under the upper part of the thigh, got upon the door, and fastening the loop of the band over his own shoulders at the same time that he pressed firmly with his hands upon the crista of the ilium, endeavoured to lift up the head of the bone, while Mr. Roberts forcibly rotated the limb outwards by grasping it both at the knee and ankle joints. Whilst this was going on, one of the straps that secured the band between the thighs suddenly gave way; but as we had another band in readiness, it was applied over the other without loss of time, and without much reducing the amount of extension already obtained. As soon as this was

properly adjusted, similar efforts were again resorted to, and continued for some time without success. By this he had taken about ten grains of the tartar emetic, and the system began to be somewhat under its influence, as was manifested by the increasing pallor of the skin, and the comparative looseness and tremor of the muscles in general; but while we were employed in augmenting the extension, another difficulty presented itself, in consequence of the knee-strap gliding over the surface of the patella, although the precaution had been adopted throughout to keep the limb at right angles. This was replaced as speedily as possible, and our efforts were renewed as assiduously as before. After the patient had taken the twelfth dose of the potassio-tartrate he became very restless, and it was evident that nausea had been duly produced. He now implored us most earnestly to desist from the further use of means; and as extension had been carried as far as was justifiable, it was resolved, before we abandoned the case as hopeless, that another and a last attempt should be made. For this purpose my brother endeavoured once more to elevate the bone, while Mr. Roberts performed rotation outwards, as already described; and after these efforts had continued for two or three minutes, the head of the femur was forced into its socket with an audible crash, the poor fellow having been under treatment for an hour and three-quarters. On relaxing the pulleys and disengaging the apparatus, the limb was found to be of nearly equal length with the other; but the difference that existed might be wholly attributable to the effects of the fracture.

The empl. thuris comp., spread upon linen, was applied over the joint, and the bandage ordinarily used in such cases was passed round the waist, and closely bound over the unsound hip. The patient was then placed in bed, and ordered to remain there for the space of a fortnight. Before the expiration of this time, however, he got up, and went out of doors upon crutches, though as yet he was unable to bear weight upon the leg.

About this period he came up to my surgery to be dressed. On examining the hip there was considerable enlargement and disfigurement, arising from the thickened state of the muscles and integuments, and also from a large mass of callus which had been deposited about the joint; and to so great an extent had coagulable lymph been thrown out, that it was extremely difficult to trace the characteristic prominences of the bony structures. Indeed, in no case that had ever fallen under my observation do I remember having previously witnessed such an immense deposit in the neighbourhood of the acetabulum: notwithstanding, the different motions of the limb, as far as they could be performed, were perfectly natural, and the man seemed highly pleased with the progress he had already made. The mercurial plaster was now substituted for the empl. thuris comp., and this was renewed every week for about a month or five weeks. But as absorption had taken place only to a trifling extent, and as the motion of the limb continued to be in a measure impeded by the callous mass, the size of a nutmeg of the iodine ointment, in the following proportions, was directed to be rubbed every night around the joint:—

℞ Potassa Hydriod.; Tinct. Iodinæ, aa. 3j.; Ung. Cetacei, ℥j. M.

On the 10th of May he walked on crutches to Dudley, a distance of five miles, where he was seen by Mr. Roberts, and also Mr. Badley, who concurred in the propriety of continuing the iodine preparation for a few weeks longer.

At the time of the present report (May 29th) he represents himself as rapidly gaining strength and power of mobility in the joint. He is able to bear his entire weight on the injured side, and he talks of substituting a stick for the use of the crutches. There has been considerable absorption of the morbid deposit, though it is still sufficient to occasion a slight disfigurement about the hip. Much of this callous mass, it is to be feared, will remain permanently; but this will not be of any great consequence, as even now it does not appear to interfere materially with the motions of the limb. These have already become very extensive; but some months must necessarily elapse before they are perfectly restored to their pristine condition.

Darlaston, Staffordshire,
May 29, 1839.

MEDICAL GAZETTE.

Saturday, July 20, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

FRENCH AND ENGLISH SCHEMES OF HOSPITAL GOVERNMENT.

WE promised, in a late number, to contrast the condition of the objects of hospital charity in France and England, with the view of showing that whatever may, in some instances, be the errors in the government of such institutions in this country, they are as nothing in comparison with those of which the evils fall, not on physicians and surgeons, but on the distressed objects whose welfare is the ultimate professed end of all such establishments.

For the extent of assistance afforded by the voluntary system of England, it is sufficient to refer to the many thousands who are annually supplied with medicines, food, and shelter, and very often with clothing, by the donations of private individuals or public bodies (under the guidance of what motives it matters little, for the worse they are, the better for our argument). But the opponents of such voluntary charity urge, or at least suspect, that benevolence will too often stop at providing the means, without looking into the mode of its expenditure; that ostentation (the other chief motive) will care but little for the almost hidden details of the scheme of relief, if it can but be prominently present to the public view; and that thus, in hospitals, the patients may be left to careless and cold-hearted superintendence, to misery and discomfort, under the guise and pretence of relief; or that at the best, in the desire to do some good to the greatest possible number, the better plan of doing great good to a few may be overlooked. It is imagined that the objects of hospital charity are treated like those of Poor-law charity—supplied with the smallest life-maintaining quantity of help, at the cheapest possible rate, and taught that (according to the common expression) they "have no right to look a gift horse in the mouth."

That all these evils exist, to their fullest extent, in a government scheme of relief for the sick, we will presently show; but that they are entirely absent from English hospitals, however managed, an inspection of such establishment will be at any time sufficient to decide. The comforts that are afforded in an English hospital, are probably in every case greater than the patient, even when in good health, enjoyed at his own home; far greater than it is possible for any labouring man, however frugal and industrious, to obtain when sickness visits him or his family; in many cases, more than those which the rich can afford. In all that regards the comforts of the patients, there is the least possible regard to expense, and the most scrupulous attention; there is no pinching economy, necessary to save the little earnings of the time of health from being totally dissipated, nor, on the part of the distributors, any grinding parsimony to obtain the credit of cheap management. The medical officers, indeed, receive no direct emolument for their services, but their places are objects of ambition for the best of the profession; and at their orders, medicines and food of all kinds, and of the best quality that money and care can procure, are administered without limit.

We appeal for confirmation of the general truth of what we have stated, to any one who is in the habit of visiting those of our hospitals or other houses of refuge in distress, that are supported by voluntary contributions. It matters not what are the motives that induce this liberal supply of the needs

of a great proportion of the sick poor; they are at least only those motives that would be engaged in any case of what is called voluntary relief; but whether it be that an hospital is established and maintained solely for the pleasure or advancement of any great man, or upheld to be the field of family and party contests, or whether it be (as a few are) the genuine offspring of philanthrophy and charity, in every case the objects of the gifts receive in this country liberal and generous treatment; and so far as we know, the motives of the bestowers have no influence whatever on the treatment of the recipients.

Now let us contrast this with the scheme of relief under the guidance of the French government, for the details of which we are indebted to the recently-published Report of the Medical Commissioner of 1838, on the Hospitals and *Hospices Civils of* Paris.

The bread supplied from the general bakerey (it is said) is badly baked; the crumbs might be made into dough again. But it is especially in the flour which is prepared by those who furnish it, and not regularly bought, that the reasons for not making good bread are to be found. The wine, made of a mixture concocted in the general depository, is a drink as disagreeable as it is injurious; its taste is sweetish; its odour alcoholic; it very soon becomes turbid, and grows acid as soon as it is exposed to the air. The meat cannot be subject to the same adulteration as the other food; but the animals that are bought are not always in a state fit for affording good food; and the low price at which the meat has to be furnished, prevents the conditions that are imposed on its suppliers from being strictly fulfilled. The soup (*bouillon*,) which is often the only aliment of the patients, is never substantial and well flavoured, for want of employing the proper quantity of meat in making it; and, to conceal this fraud, there is an article in the rules ordering the *bouillon* to be sweetened with treacle, &c. The dry pulse are remarked in every establishment as of the worst quality; they contain insects which disgust the patients, and the greater part of the beans, lentils, peas, and haricots, are damaged, and deprived of their nutritious parts. The milk, which ought to be considered as at once an aliment and a remedy, is one of the provisions that is the least attended to; and the suppliers have no hesitation in adulterating it in the most disgraceful manner to obtain a profit, which the low prices imposed upon them will not permit them to obtain legally. The sugar was already employed with much parsimony, when a recent order arrived to reduce the quantity to a still smaller allowance, and to substitute liquorice in its place. Lastly, the cooking of the food is still worse than the quality of the provisions, and this not only from want of proper care, but also from the bad quality of the butter, the fat, and all the other appliances.

Such is an abstract of the complaints, not of the patients only, who might be called fastidious and discontented, but of the medical officers of the charitable institutions for the sick in Paris. Only imagine such a state of things in London! What an outcry would there be against those who, under the pretence of voluntary charity, offered a sick man sour beer, and stale maggot-eaten vegetables! There may be similar practices in the treatment of the healthy paupers who fall under the patronage of our Commissioners, as the sick do under that of the French Council of Administration; but in a privately-governed hospital such things would justly be scouted as disgraceful to the

name of charity and unworthy even of ostentation. We remember once the astonishment with which a Polish physician surveyed the business of the kitchen in one of our large hospitals, and expressed with evident sincerity his wish that he himself were always as well fed in Poland, as the patients seemed to be in England. But such coldness and indifference to the wants of the afflicted as exists in the French administration will always exist in those whose *business* it is to *manage* the poor; when their feelings of kindness and pity are (as they must be in time) blunted, and when they have no reputation at stake, and no credit to be gained unless for rigid economy, no wonder that they lose sight of the only real end of their office, the administration of comfort as well as of necessary assistance to the needy.

The Report, in continuation, says that the bad quality of the food is not all that is complained of, but that there is positively not a sufficient supply of it, such as it is. The physicians of the Maternité declare that the children placed there have not enough food for their support, and that they frequently die of hunger. The physicians of the Bicêtre complained, in 1834, of the inadequacy of the regimen allotted to the old and infirm; and in 1837, their complaint being disregarded, the same demand for more food was renewed by them, and by the physicians of the Salpétrière, and is repeated in the present Report, with the declaration that the mortality in both these establishments is considerably greater than in others of the same kind, in which a more liberal diet is allowed!

The cause of the patients has been warmly espoused by the medical attendants, who constantly find their orders and their requests alike disregarded or countermanded by higher authorities. They are often disappointed of their anticipated success in treatment by the mean and parsimonious management of their patients' diet. They are now in hot dispute with the administering council, who will yield them nothing, and by whom their Annual Reports—all as condemnatory as that from which we have quoted the most striking parts—are completely set at nought. We shall content ourselves with noticing only this part of their complaints, which relates to the objects of the charities; there are plenty more, in which they detail the inadequacy of the present accommodation for as many as would resort even to this miserable assistance; the unjust and unequal remuneration of the different officers attached to the institutions; the favours shown to those who are appointed by the government; the comparatively small portion of the grants which is devoted to the positive relief of the sick; and so many more abuses, that the reader might be tempted to imagine the English scheme to be veritably Utopian.

The comparison of the results of the English and French methods of hospital management affords very important evidence on the long-agitated point of the comparative merits of the compulsory and the voluntary systems of general relief for the poor. Not that the relief of the sick poor can be considered as exactly analogous to the permanent or temporary maintenance of the healthy poor, whose poverty may be the result of indolence, or many faults which sickness would not immediately follow; yet there is sufficient similarity between the two cases, to make them deserve attentive consideration. In France, where all the people are taxed for the relief of the sick, and where the management is governmental, the results are most discouraging; the sick are not all provided for, and those who are, are ill treated and half starved. In England, where private donations and pri-

vate management are bestowed upon the same class, they enjoy the greatest comfort. But in England, also, the poor generally are maintained by public taxation, and are managed by government servants, and the result is the same as among the hospital patients in France. It is unfortunate that the labours of Commissions of Inquiry are confined to the accumulation of evidence from our own country alone; facts of great importance, though requiring more caution in their application, are of daily occurrence in other nations, which are constantly overlooked or neglected; and among these, we have lately met with none more important than those of which we have quoted but a small part from the present Report.

UNIVERSITY OF LONDON.

EXAMINATION FOR HONOURS.

No candidate presented himself to be examined for honours in Anatomy and Physiology, and only one in Chemistry and Materia Medica. This paucity of candidates may, we believe, be attributed to the Senate having decided that candidates for honours in subjects above mentioned must not have attained their twenty-second year, and we understand that only one of the nine who occupied the first division at the "pass" examination was eligible.

It may be proper to state that the prizes to be adjudged where the Examiners deem the candidates worthy of them, are in each of the three subjects above referred to;—an exhibition of 30*l.* per annum, for two years; two gold medals value 5*l.* each.

We subjoin the questions for honours in Chemistry and Materia Medica.

BACHELOR OF MEDICINE. 1839.

FIRST EXAMINATION.

EXAMINATION IN CHEMISTRY FOR HONOURS.

Wednesday, July 10.—Morning, 10 to 1.

Examiner, Professor DANIELL.

1. Is there any, and what, difference in the law of expansion by heat, between water and alcohol?

2. Explain the phenomenon of dew.

3. Explain the principal phenomena of electrical induction, and the construction and action of the Leyden jar.

4. What are the principal phenomena of a simple voltaic circuit?

5. Describe the construction of the voltaic battery, and explain the origin of its power.

6. What is electrolysis? and what the principal laws by which it is governed?

7. What is Isomerism? Illustrate the subject by examples.

8. Describe the process for the production of sulphuric ether, and explain the changes which take place during its production.

9. What is the constitution of urea? Explain by chemical notation the relation which it bears to cyanate of ammonia.

10. What is oxalamide? What relation does it bear to oxalate of ammonia?

Wednesday Afternoon, 3 to 6.

MATERIA MEDICA AND PHARMACEUTICAL CHEMISTRY.

Examiner, Mr. PEREIRA.

1. Describe the method of preparing hydrochlorate of morphia according to the London Pharmacopœia. Explain the successive steps of the process and state how morphia is directed to be extracted from the hydrochlorate. What is the primary form of the crystals of this vegetable alkali? By what chemical characters is morphia distinguished from narcotina, codeia, strychnia, brucia, and quina? What is the atomic constitution of morphia?

2. What are the symptoms, for the relief of which opium is used in inflammatory diseases; and what are the circumstances which permit its employment? For what purposes is this remedy administered in continued fever, and what are the symptoms which forbid its use?

3. What are the botanical characters and prevailing medicinal qualities of *Ranunculaceæ*, *Umbelliferæ*, and *Solaneæ*? Enumerate the officinal species in each order.

4. Describe the digestive apparatus (including the mouth) of the officinal leech. Explain how this animal perforates the skin and draws blood. Mention in what cases leeching is to be preferred to cupping.

5. What change does sulphate of iron suffer when mixed with the *Decoction Aloës compositum*? What soluble ferruginous salts are compatible with this decoction? What substances are incompatible with the *Mistura Ferri composita*?

6. Describe the method of preparing *Antimonii Potassio-tartras*, PH. LOND.; and

explain the chemical changes which occur during the process. What is the composition of this salt in the crystallised state?

7. In what inflammatory diseases, and under what circumstances, would mercury, given so as to affect the mouth, be admissible and advisable? How would the existence of syphilis, scrofula, or local malignant disease affect its use?

8. What are the effects, uses, and doses of *Lobleia inflata* and of *Chimaphila corymbosa*?

9. Describe in botanical language the fruit of *Conium maculatum*.

10. What pharmaceutical crystals have the square prism for their primary form?

ON

A RECENT CASE OF SUDDEN DEATH.

WITH REMARKS.

By Henry Savage,

Lecturer on Anatomy, at the Westminster Hospital School.

We can scarcely take up an ordinary newspaper without meeting with an instance of sudden death. Yet, notwithstanding the apparent frequency of its occurrence, we look in vain for properly authenticated cases in our medical periodicals. The deficiency in this part of our records it is not easy to explain; it cannot arise from a want of common interest respecting so fearful a calamity; for where is he who does not shrink back with horror at the bare idea of meeting his death in this terrible form?

The case under present consideration deserves more than ordinary attention, from the circumstances under which it took place; and I have therefore ventured beyond a mere detail of its history and the appearances discovered at the post-mortem examination.

Joseph Hall*, by trade an ornamental picture-frame-maker, was induced to apply to Dr. Turnbull, about two months before his death, with the hope of being cured of slight deafness, and during this time he frequently submitted himself to the use of the acoustic air-press, an instrument of modern invention. The operation sometimes made him feel faint and sick, but it generally occasioned no feeling of inconvenience. On Saturday morning he rose as early as usual, and repaired to the residence of Dr. T. He was not ill that morning. A fellow-workman, who slept in the same room with him did not perceive any change in his appearance. His health was generally very good; in fact, his strength exceeded that of the majority of young men of his age, and in consequence of his superiority in this respect he was called "strong back," under which name Dr. Turnbull was accustomed to employ him in charging the instrument, both for himself and for others. On this occasion he charged the air-press as he had before done. Mr. Lyon, "a partner in the eye department," then introduced the catheter into the Eustachian tube, and discharged the condensed air into the tympanum. This proceeding was repeated five times (taking the two tympani together.) The first time he turned the stop-cock himself; but subsequently this part of the process was entrusted to Charles Spadhow, an intelligent deaf lad, who "turned it on strong, but not so strong as he could." Immediately after the fifth discharge Mr. Lyon proceeded to withdraw the catheter, and whilst in the act of so doing the patient sank gently against the back of the chair, his eyes closed, his hands dropped by his sides, he fell into perfect deliquium, and ceased to breathe.

Under the impression that he had merely fainted, stimulants were applied to his nostrils; but as the real nature of the case revealed itself, this treatment was followed by artificial respiration and the warm bath. The brachial and jugular veins were opened, and blood was obtained, the bleeding even continued for a greater part of the day, at intervals, but life had irrecoverably fled; not the slightest sign of returning animation attended the employment of any restorative medicine.

The post-mortem examination.—On Tuesday morning, at seven o'clock, 68 hours after death, I opened the body, in conjunction with Dr. Reid, of Bloomsbury Square, and in presence of Mr. Richard Quain and Mr. Liston.

The body was that of a robust muscular male, about five feet eight inches in length, and without the slightest appearance of deformity; on the contrary, the features, although slightly puffed up by incipient decomposition, were good-looking, and the trunk and limbs remarkably well proportioned. The skin of the face, upper part of the chest, and arms, was changed to a greenish hue, but the epidermis was not in any place detached. Narrow dark bloody streaks ran down the neck and arms from the punctures in the veins; the flow had ceased, but the blood was still fluid. *Head:* hairy scalp, thick; when cut across poured forth from numerous venous orifices, small quantities of dark fluid blood. The calvarium moderately thick, and quite smooth, inside and out. Diploe not more vascular than usual. Dura mater and its processes perfectly healthy, but the sinuses contained (not dis-

* Mann's Notes of Inquest.

tended) grumous semi-fluid blood. On removing the dura mater on a line with the detached calvarium, a stratum of grumous dark fluid, resembling that in the superior sinuses, was seen resting on the arachnoid. In quantity, this fluid might amount to about three fluid drachms, certainly not more. The stratum was less than a line in thickness at the vertex of the hemispheres—the most dependent portion, according to the position in which the body laid for three days—and gradually thinned off to an imperceptible film at a circumference radiating half an inch from that point. It appeared to me to cover an equal surface of each hemisphere. The superficial veins of the brain were distended with the same kind of dark fluid and air. A yellowish transparent fluid (cerebro-spinal) lifted up the arachnoid from the pia mater, especially at the sulci, with each of which, and with the ventricles, it communicated freely. The nerves at the base of the brain were perfectly sound, the cerebro-spinal fluid ran freely between pia mater and arachnoid, which was not ruptured at any point. The substance of the brain and cerebellum (both rather softened) was of the usual colour, presenting no bloody points at the surface of the sections made of it, nor any trace of extravasation. The thoracic and abdominal organs were, with the exception of the heart, in a healthy condition. The state of the heart and blood-vessels resembled that described by Mr. Chevalier*, in three cases of sudden death, and termed, by him, idiopathic asphyxia, viz. the former very flaccid and perfectly empty, and the latter were also destitute of blood for an inch and a half of their cardiac extremities.

State of the ear.—The tympanum and outer portion of the organ were examined at the time, but the temporal bones were removed for subsequent and more careful inspection. Pinna and external meatus perfectly natural and healthy, the dermoid covering of the memb. tympani could be withdrawn like a blind sac, leaving that membrane glistening at the bottom of the meatus.

Tympanum.—Chain of small bones unbroken; handle of the malleus still attached to the membrana tympani, and the base of the stapes to the fenestra ovalis: they had not escaped unaffected by the process of decomposition, for at a touch the little bones separated from each other, and all, save the stapes, fell loose into the tympanum. The fenestra rotunda and mastoid cells sound.

The lining membrane of the tympanum and Eustachian tube showed by evident signs that it had been the seat of inflammatory action during life; thus, instead of being delicate and transparent, as it is in a healthy state, when its existence as a continuous membrane hardly admits of demonstration, in the right tympanum and Eustachian tube, it was red, and half a line in thickness, and in the left upwards of a line thick, and covered by a tenacious bloody mucus.

The Eustachian tubes.—The condition of these tubes was particularly interesting, inasmuch as it pointed towards the real cause of the deafness. The lining membrane was so much thickened and villous, that, although a probe could be carried through them without the least difficulty, yet during life this thickening must have been sufficient to oppose the passage of air considerably in the right tube, and to obstruct it entirely on the left.

The membranous and nervous structures of the labyrinth were soft, and could not be well made out, but it was satisfactorily ascertained that no preternatural opening of communication with the cavity of the skull existed, nor was any part of the organ broken, or in any way injured by mechanical violence. The base of the skull was in every respect sound; the internal meatus had its usual contents, which were healthy. The petrous sinuses contained air and dark-coloured blood; and the thin film of bone which covers the canal leading from the tympanum to the mastoid cells, presented no appearance of abrasion or decay.

Upon reviewing the above statement, the reader will perceive that little or no evidence which will assist in accounting for the sudden death of the unfortunate youth can be drawn from the post-mortem examination. The congestion of the scalp, the distension of the cerebral veins and sinuses with dark coloured blood and air, did not exceed what I have met with in almost every body brought to the dissecting-room. The state of the different portions of the ear, although indicating the cause of deafness, completely removes the idea of injury to the brain in consequence of rupture of the tympanum, and the escape of air into the cavity of the skull. The healthy condition of the viscera and blood-vessels generally, precludes the possibility of our assigning the cause to them; and thus we have only remaining the stratum of fluid found on the hemispheres, and the empty state of the heart and cardiac ends of the great vessels to take into consideration.

The stratum of grumous thin fluid, let it be remembered, merely occupied a round surface of the hemispheres, of about three inches in diameter; in quantity it did not exceed three drachms; it had collected around the vertex, on which the

* Med.-Chir. Trans., vol. I.

head had rested for sixty hours, and it did not resemble blood. I cannot help thinking that it was an exudation after death; but supposing it to be the result of extravasation during life, it could not have produced death by pressure, the quantity was too small; but might it not be produced by a stroke of apoplexy? The post-mortem signs of this disease, it is well known, bear no proportion to its degree of rapidity and fatality. I beg to submit the following transcript of the best authors in answer to this question:—

"In apoplexy, blood is usually found extravasated in the brain, rarely on the surface.—It may take place at any age; but it is rare early in life; and when it does occur in the young, it usually comes on slowly, and not by a sudden stroke as in old age.—Interrupted circulation in the brain is the proximate or immediate cause of that suspension of the sensorial functions, which constitutes the apoplectic state.—In most cases, probably in all, if sufficient attention were paid, the apoplectic attack, if real, is preceded by a symptom." The ordinary precursory signs are heaviness and somnolency; and in sudden cases, during the apoplectic state, those of deep sleep, with flushed countenance. These forms of apoplexy are generally attended by, or rather they are consequent on, extravasation of blood to some extent, although perhaps not proportionate to the severity of the symptoms. But there is another form—"nervous apoplexy"—which leaves no sign that can be discovered in the head, beyond what was found in Joseph Hall; here, however, the similarity ends, for nervous apoplexy is slow in progress: thus, out of many cases mentioned by Dr. Abercrombie*, death did not take place until the second day after the attack, "whilst the rapidly fatal cases presented after death extravasation, often considerable, in some part of the brain." If this abstract from the best writers can be relied on, Joseph Hall's death cannot be attributed to apoplexy. But now as regards the state of the heart and great vessels:—

The attention of the profession was first directed to this condition of the circulating organs, as explanatory of sudden death without apparent cause, by the late T. Chevalier, Esq., in a paper read before the Medico-Chirurgical Society in 1808. He there mentions three cases in which the heart after death was flaccid and empty, and the cardiac ends of the great blood-vessels also evacuated of blood for an inch or more. The author attributed death to a loss of power in the blood-vessels, particularly the smaller ones, to propel their blood, the heart dying for want of its accustomed stimulus, "the flaccidity of the heart being probably owing to debility of its own blood-vessels." Under the impression that this condition of the vascular system arose spontaneously, and that the short feeble breathing which characterizes this species of sudden death depended on a diminished flow of blood through the lungs, he made use of the term "asphyxia idiopathica," which, as far as regards the primary cause of death, in reality leaves the question as he found it. It should be remarked, that death in these examples was not rigorously instantaneous, as half an hour elapsed between the attack and fatal termination.

There is a great resemblance between the death of Joseph Hall and the cases just alluded to, and we have as much reason to be satisfied with asphyxia idiopathica as the distinguished surgeon who invented the term. But asphyxia, although an apt term, will not get rid of the difficulty; it does not help us to get nearer to the real cause of death, and I confess myself unable to understand how the smaller vessels can become simultaneously debilitated, unless in reference to the nerves with which they are supplied, and under whose control they are strictly placed. It seems to me more reasonable to seek in the nervous system for information, and I am not sure that by so doing we shall meet with disappointment.

Let us take take two extreme cases; viz. a case of sudden death from lightning, and a case of death under ordinary circumstances. It is well known that in ordinary death, every part of the body does not die at one and the same time: thus, the heart and blood-vessels are the last parts which lose vitality for a little time after respiration has ceased; the circulation is still carried on in feeble circuit; the heart's expiring struggle is taken up by the arteries, and so the vital fluid is found accumulated in the large veins and primary venous trunks: it even gets back again as far as the ventricles and auricles, for a more or less fibrinous coagulum may in general be detected in them. In death from lightning, on the other hand, all the structures of the body are at once deprived of every mark of life; every organ is in a moment struck dead; the heart ceases to beat; even the blood refuses to coagulate, but, still in a fluid state, remains in the arteries as well as in the veins.

Between these two extremes there are many gradations. Sir B. Brodie showed by experiment that in animals killed by an explosion of a galvanic battery, the heart continued for some time to act feebly.

* Diseases of the Brain, &c.

Other grades are exemplified by the cases related by Mr. Chevalier, and by that of Joseph Hall. It is true they did not owe their death to electricity; but death was produced by a shock, which, although it differed as to its cause, was nevertheless powerful enough to annihilate the functions of the nervous system. Not else can we account for the debility of the smaller vessels, which did not complete the circuit began by the last beat of the heart; and I am inclined to think that the state of this organ and blood-vessel after death may be regarded as nothing more than a good criterion of its severity.

If I have succeeded in reducing the inquiry to one which regards the nature of the shock, it is merely necessary to discover the latter, in order to render the case complete. Cold, when applied to the ear for a short time, as in injecting cold water into the external meatus, very powerfully affects the system: two cases, which fell under my own notice, will serve particularly well to illustrate this observation. A young gentleman, accustomed, on rising in the morning, to syringe his ears with warm water, on one occasion used cold; at the third or fourth syringeful he fell insensible on the floor, and did not fully recover for twenty-four hours. He described his sensations to be those of fainting; he became dizzy, sick, faint, and finally insensible. A young lady experienced similar sensations, but not so severe, after the use of cold water in the same way: she did not recover for six or seven hours. These curious effects were surely the result of a shock on the nervous system; they could scarcely be produced in any other way. Now, it is well known that air, in resuming its former bulk after condensation, becomes a powerful refrigerating agent; and, therefore, when injected into the tympanum for an unusual length of time, may and will, as the following cases show, produce effects very much the same as those arising from the use of cold water.

A. W., an elderly gentleman, applied to an aurist for the cure of his deafness: at the second discharge from an air-press he fell insensible, and did not recover for four hours.

A. Y., a boy about 18 years, applied to an aurist, and was treated in the same manner: at the second or third discharge he fell into perfect deliquium, and did not recover for the greater part of the day. It is alleged that these two persons were subject to fits, but these fits were not characterized by insensibility, and if they were, it is plain that the remedy is dangerous where a nervous susceptibility exists.

I know of three other cases, but, as they resemble in every respect the two just named, it is not necessary to detail them.

I would here ask the careful reader, who will take the trouble to review the circumstances attending the death of Joseph Hall, if he does not attribute the fatal result to the long-continued injection of air, rendered much colder on resuming its former bulk, into the tympani.

The Air-press as an Acoustic Instrument.

The air-press, although made of various shapes, in principle is precisely the same as the condensing syringe and reservoir of an air-gun. A flexible tube, with a stop-cock, is attached to the reservoir, and thus an unremitting blast of air, in strength and duration, depending on the degree of condensation, is obtained. A Eustachian tube catheter, of silver or elastic gum, completes the apparatus.

An instrument of this kind, long ago suggested in this country, has lately been made use of for acoustic purposes in France and Germany, by several talented physicians; but in England, where its introduction is comparatively recent, it has fallen into the hands of a blundering few, who, instead of employing it as a diagnostic agent, with a view to the more rational treatment of diseases of the ear, make it serve as a vehicle for every species of quackery.

It is much to be regretted that those who have taught us, by their prudent example, to rely on them in matters of doubt or difficulty, do not undertake to test some of the many new remedies, particularly those which are backed by the recommendation of enlightened individuals of other countries. If this were the case, the public would cease to run, or at any rate they would pause, before they endangered their lives by running to every one professing to cure by a new instrument. Let us here compare the practice of ear medicine as it exists in France and in this country, and, in illustration of the former, take Deleau. "It is, perhaps, to the prognosis I give my patients that I owe part of my practice. Many patients are sent to me by persons whom I had pronounced incurably deaf, but who are not the less ready to recommend me than those I have cured. This is not surprising; for, indeed, it is as useful to humanity to prognosticate the impossibility of curing certain cases of deafness, and not to subject to treatment the numerous incurables, as to cure those who are curable. Consider how many wounds, blood-letting, and operations still more painful, one should practise, if he subjected indiscriminately to treatment that immense number of individuals who are constantly running about to consult all the medico-chirurgical notabilities, and all the inven-

tors of new nostrums!" He makes mention of various "bruits," — as *bruit de pluie, de pavillon, de la trompe, de la cuivre,* &c.—which are only to be heard by considerable care and dexterity in using the air-press. The steam of the air should be allowed to enter the tympanum gently, and the catheter should be loosely engaged in the Eustachian tube to allow of its escape back again into the fauces. During the process, the operator listens at the outer ear, and judges by the kind of sound the air makes in thus circulating in the tympanum of the condition of its lining membrane; which may be so much thickened as to close the Eustachian tube, diminish the diameter of the fenestra rotunda, and thus prevent the due vibration of the tympanic membrane and the ento-lymph in the labyrinth. The propriety of this manœuvre is unquestionable, and it is obvious that one, or at most two, discharges of the press are sufficient to procure all the information that the instrument can afford. It is out of place to proffer any remarks on the use of the air-douche as a means of altering the condition of the lining membrane of the tympanum and Eustachian tube, or to inquire into the precise relation between this condition and the degree of deafness. I may perhaps, however, be permitted to say, that the effect of the air douche, as applied in England, has not been successful in ten cases which have come to my knowledge, as the affection was considerably aggravated after from three to six applications.

How strikingly different is the practice of acoustic surgery with us! One would be inclined to suppose that diseases of the ear were considered by our best surgeons as utterly unworthy of their attention; for, with one or two exceptions, this department of our science is engrossed by a set of the most bare-faced quacks that ever the world produced. They not only steal from the fair rights of the well-educated professional public, but, like rats, only wait for an unfortunate brother to fall into a trap, when on they rush to eat him up, barely leaving the tail behind them. Who is not disgusted at the public advertisements which this case of Joseph Hall seems to have called forth. "That is not *my* plan," says one; and invites the public to witness the superiority of *his* process. "I have no such instrument as an air-pump," says another; and takes the same opportunity of expatiating on the beauties of an air-trumpet, by which even the deaf and dumb are enabled to speak as well as hear. Verily one turns heart-sick away from such effrontery, yet the public are every day gulled by a species of quackery which, if bad, indeed, when practised by the ignorant pretender, is particularly abominable when boldly advocated by "M.R.C.S." or "M.D."

And what does the acoustic quack? I will pledge myself to bring forward more than one instance of the truth of the following statement:—The patient, whatever may be the cause of his deafness (malformation of the ear or otherwise), is first assured that he will be cured, and he is accordingly directed to take up his abode near to or in the residence of the operator. A fluid is poured into the outer meatus, and there follows a ramming and cramming with some preparation. The patient is now directed to apply again in a morning or two, when four or five pellets are extracted by the aurist, screwed up in paper, and handed to the deluded patient, for the inspection of his friends. The legerdemain is repeated, but the patient, unless the cause of deafness be of a temporary description, ultimately finds himself in the same state as at first, and does not return. Or suppose the air-press is made use of: the catheter is, with much display, thrust into the Eustachian tube; the press, charged by the untutored hand of a sturdy by-stander, is now affixed, and the operator, instead of intently listening to the murmur in the tympanum, retires to some distance, as if fearful of the instrument so unskilfully prepared. Endless would be the task of recounting cases of this species of imposition; indeed I ought to apologize for having so far exceeded ordinary limits. I will, therefore, conclude with the hope that some more influential pen may employ itself on this subject, in order to induce the legislature to adopt such measures as will effectually put down a system which can exist only at the expense of public health.

7, Lower Southampton Street,
July 18, 1839.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S.
Sorbon.

General observations.—Comparison of German, English, and French ophthalmic writers.—School of Beer.—Division of ophthalmia into the scrofulous, rheumatic, and catarrhal, erroneous.—Diseases of the eye divided into those affecting—1. the eyelids; 2. the inner canthus; 3. the eye itself—Different forms of blepharitis, or inflammatory affections of the eyelids.

Gentlemen,—Before I enter at length into the examination of the subject of

which I am about to treat, I wish to make a few remarks respecting the history of this branch of surgical science, principally with the view of dispelling some erroneous opinions which seem to prevail, not only among foreigners, but even among many of our own countrymen: I allude to the reproach often made to France, that she has contributed but little to the advancement of Ophthalmology—that she has allowed other nations to take the lead, and has shewn indifference to a class of diseases which has been cultivated with the greatest interest in neighbouring countries.

A cursory survey, however, of the history of ophthalmology will show clearly that there is no real foundation for such an opinion, and that, although a much smaller number of special treatises on this subject has been published in France, during the last few years, than in England or in Germany, we are not at all behind these countries in our knowledge of this division of pathology. We must never forget that in medical science, as, indeed, in all others, it is not the number of authors, but the accuracy of their ideas, that ought to guide us in forming an opinion.

In all ages, diseases of the eye have attracted great attention; nor, indeed, can we be surprised at this, when we take into consideration the extreme importance of its functions, and the numerous maladies to which it is subject. No other organ of the animal economy, indeed, offers to our observation so many forms of disease; and this is at once accounted for when we consider the extremely complicated nature of its texture. In the eye we find nearly all the elements of our organization. In it we meet with cellular, muscular, vascular, fibrous, and nervous tissue In it we find an apparatus for secretion and excretion; also tissues not to be observed in any other part of the body, such as the choroid membrane, the retina, the crystalline lens, and the vitreous humour. Each of these tissues must necessarily be subject to peculiar affections, manifesting themselves by peculiar symptoms, as is the case in all other regions of the body.

In Galen's time, a great number of diseases of the eye were already known. He says that many persons specially devoted themselves to this branch of the healing art; nor need we think this extraordinary, for then nearly every branch of medicine had become a prey to specialists. There were oculists, aurists, lithotomists, physicians for the chest, physicians for the abdomen, &c. &c.; and this is the state of things into which some would now wish us to return.

From Galen up to the sixteenth century we find no important work on diseases of the eye. At that epoch France gave the signal—France opened the path of modern improvement. Guillemeau is the first who classed the different affections of the eye; this he did in an interesting treatise, in which he describes as many as one hundred and thirteen diseases, designating them by names mostly taken from the Greek authors.

It is not, however, until the end of the seventeenth and during the eighteenth century, that we see those works appear which constitute an era in science. It was then that the writings of St. Ives, Maître Jaen, David, Brisseau, Guerin, Janin, Pellier, Wenzel, Demours, appeared in France; that of Scarpa, in Italy; those of Richter, Beer, Schmidt, Himly, in Germany; those of Woolhouse, Wathen, Ware, and others, in England. Hitherto France has, you see, her representatives among ophthalmologists, and their labours will bear comparison, in every respect, with those of foreigners. Even those who speak the most lightly of French surgery, yield to France the superiority during the eighteenth century. But where, they ask, are the men of our times whom you can compare with Jünghen, Ammon Ræsas, Jæger, in Germany; with Saunders, Wardrop, Travers, Mackenzie, in England; with Fabini, Quadri, Flarer, in Italy?

We cannot, I confess, bring forward so many pure ophthalmologists; but I appeal to your reason, is it necessary to be decorated with the name of oculist to have exact notions respecting diseases of the eye? Do not these affections belong to pathology in general? and ought not every good surgeon to be acquainted with this branch of his profession, as well as with all others? Absolute specialities ought not, in our days, to meet with the favour they met with formerly. Indeed, public opinion seems to be gradually becoming more enlightened in this respect; and we may still hope to see the time when specialities will fall entirely into the domain of charlatanry. You are aware, I presume, that I only allude to specialities as practised by those whose knowledge is confined to the branch of pathology they have embraced. I am far from wishing to cast any blame on the preference a practitioner may give to some branch or other of his profession. It would, I think, be difficult to find a man of science who has not some favourite subject to which he more particularly directs his attention.

If we look over the French periodicals, and the different works on surgery that have appeared in our own times, we shall certainly find many articles which the most celebrated ophthalmologists would not disown. Had we not a few years ago Demours junior and Forlenze? Have we not now MM. Wenzel junior, Guillet, Faure, Gondret, Bourgot, Andrieux, Stæ-

ber? MM. Carron du Villard, Furnari, Rognetta, although of Italian extraction, profess among us French doctrines. Again, are Boyer and Dupuytren—are MM. Roux, J. Cloquet, Sanson, Laugier, Marjolin, inferior to those surgeons of Great Britain or Germany? May I be allowed to say, that I myself have for many years paid great attention to diseases of the eye. In 1820 and in 1825 I published several articles on this subject. In 1831 I gave a series of special lectures on ophthalmology at La Pitié, some of which appeared in the periodicals of the day.

This I say, merely with the view of proving that France has done as much as any other nation, towards the advancement of this branch of pathology. Were I to say more I should be obliged to enter into details which would carry me too far. I will, therefore, only add, that providing justice be rendered to France, I am perfectly willing to be generous to other nations.

In the course of these lectures my opinions will often be at variance with the doctrines professed and adopted in other countries; I think it necessary, therefore, to announce, as briefly as possible, the doctrines to which I allude.

I shall occasionally find myself opposed to men of science, whom I esteem, some of whom I number among my friends. This consideration, however, cannot deter me from making my opinions public; every other feeling must give way when we are prompted by the interests of science and the welfare of humanity.

The school which reigns at the present time is that of Beer. Even M. Stæber has not escaped its influence. The doctrines professed by the pupils of this oculist repose on two principles, which must detain us for a few moments.

The first of these principles—the one which forms, as it were, the basis of the system—is, that diseases of the eye ought to be classed according to the natural system; that is, according to their physical symptoms. This mode of classification, which is the one adopted by botanists, appeared novel in its application to medical science; but were you to peruse the nosology of Sauvages, you would at once see that it is not necessary to go to Vienna or Berlin to meet with such an application of the natural system. The same may be said of Pinel. Is not this also the system of all the solidists—of the Broussaian school itself. Beer, it is true, only applied this principle to diseases of the eye, but M. Jæger extended it to pathology in general. This is the system he opposes to that of the French physiologists and organicians.

The second principle is, that the classification should also be founded on the nature of the disease; it may be considered the consequence of the first.

Such are the principles which have given birth to scrofulous, rheumatic, and catarrhal ophthalmia. Those of you who have followed my visits for any length of time, must have perceived that these denominations are founded on erroneous views. I do not mean to assert that a scrofulous constitution, or a syphilytic taint, will not exert great influence over diseases of the eye. The eye is no more shielded from such influence than any other organ. But I must be allowed to differ entirely from those who maintain that a disease of the eye assumes peculiar symptoms because the patient's constitution is modified by a general affection; and from those who pretend to judge of the constitution of persons from the ophthalmia presenting this or that symptom. Attentive observation of disease renders me every day more and more convinced, that such opinions are entirely without foundation. Examine the patients now in our wards; many will offer you all the symptoms which the German school considers pathognomic of a special affection of the eye; yet you will find but very few among them under the influence of the general affection on which so much stress is laid by Beer. Those whom these cases might not convince, have it in their power to perform an experiment which would perhaps carry with it more weight than what is seen here. Nothing, indeed, is more easy than to give rise in the healthy eye, by artificial means, to an inflammation assuming the symptoms of the scrofulous, the rheumatic, or the catarrhal form of ophthalmia.

Anticipating here the ideas I intend to develop in the following lectures, I will, in a few words, tell you my opinions on this subject. I believe the division of ophthalmia into scrofulous, rheumatic, and catarrhal, which the school of Beer is now attempting to establish, is altogether erroneous. These general affections exercise the same influence over diseases of the eye that they exercise over all other diseases. The error of Beer, and that of his followers, is simply this: they judge of the constitution by the appearance of the eye, whilst you ought to judge of the eye by the constitution. They shew us the image inverted, if I may use the figure; I wish to place it in its proper position.

Scrofulous or rheumatic ophthalmia, &c. as understood by one of the representatives of the German school now among us*, does not, then, in my opinion, properly

* M. Sichel, a private professor of ophthalmology, of high scientific attainments. M. S. has lately published a work, in which he entirely adopts the views of the German pathologists.—J. H. B.

speaking, exist. The doubts which some of you may feel on this subject will, I think, have vanished before we have brought our examination of these affections to a close. I shall endeavour to overthrow the opinions of the German school, not only because they are false, but also because they only serve to render more intricate a subject which is already extremely difficult.

To conclude these observations, I will say, that after having meditated frequently and seriously on the subject — after having made an immense number of observations at the bed-side of the patient— I think I am warranted in asserting, that the study of diseases of the eye ought to be directed by the same laws as that of all other branches of pathology.

Diseases of the eye may be divided into three classes :—

1st. Diseases of the eyelids.
2d. Diseases of the inner canthus.
3d. Diseases of the eye itself.

The diseases of the inner canthus having been sufficiently investigated during the last few years, I shall not enter into any details respecting them, referring you to what I have already published on the subject in my work on Operative Surgery, and in the Dictionnaire de Médecine.

With regard to diseases of the globe of the eye I shall lay aside every thing relating to degenerations of tissue, confining myself to what authors have designated under the general term of ophthalmia.

Inflammatory Diseases of the Eyelids.

The different inflammatory diseases of the eyelids are known under the general term of *Blepharitis*. Blepharitis presents several varieties determined by the nature of the tissue primarily affected, and by the variable intensity of the inflammation. I must again remind you, that, for the present I do not take into consideration the constitution of the patient, or the different specific causes of disease.

The eyelids, considered in a general point of view, present an external or cutaneous surface, an internal or mucous surface, and a free margin. Between these you find a tissue, the structure of which must be well known before you can form an exact notion of the inflammatory affections of the palpebræ. The most important anatomical feature is the laxity of the cellular tissue, uniting the muscular and cartilaginous portions, &c.

The anatomical structure of the eyelids might induce us to recognize an external, a median, and an internal blepharitis, as also a blepharitis of the free margin. Pathologists have, however, very justly excluded the two first from the list of inflammatory affections constituting ophthalmia : nevertheless, as inflammation here assumes a peculiar physiognomy which it does not present in any other part of the body, the prepuce and scrotum excepted, I feel bound to say a few words on the subject.

When the inflammation is limited to the external surface of the eyelids, it offers, as I have already stated, the same characters as when it attacks the prepuce or scrotum. It is merely an erysipelatous or erythematous affection, which is to be treated by the means usually resorted to in these diseases. In the simple form, without any complication, the affection is so slight, that it is only necessary to point it out to you.

When, however, the intermediate layers are inflamed, the malady becomes more serious. The connection between these tissues and the inner surface of the eyelids is so intimate, that generally the inflammation, passing from one to the other, gives rise to blepharitis, properly so called. Thus, as we have not only to fear the consequences of the inflammation in the part primarily affected, but also its extension to the palpebral conjunctiva, we ought at once to adopt every measure likely to arrest its progress.

This kind of blepharitis may assume two forms ; it may be circumscribed or it may be diffuse. When diffuse, it constitutes what is called phlegmonous erysipelas. In both cases, the best plan to extinguish the disease, and to avoid the usual consequences of plegmonous erysipelas, is to scarify the parts, regulating the number of scarifications by the extent of the inflammation. These affections do not, in reality, deserve to be comprised under the head of ophthalmia. I shall not, therefore, enter into any further details respecting them, but at once commence the examination of blepharitis, properly so called— that is, of the inflammatory affections of the internal surface and of the free margin of the eyelids.

Blepharitis, strictly so called, presents four principal forms, which are determined by the consideration of the structure of the parts primarily affected. Thus, when the inflammation is limited to the conjunctiva, I call it mucous blepharitis; when it occupies the Meibomian glands, glandular blepharitis. This second form admits of a variety, diphterical blepharitis. The third form is not yet well known ; the inflammation appears to be concentrated in the mucous follicles. This latter circumstance has induced me to give it the name of granular blepharitis. Lastly, I have called ciliary blepharitis that form in which the inflammation is situated at the base of the cilia. To these four principal forms we may add purulent blepharitis. We have therefore to study—

Mucous blepharitis.
Glandular ditto.
Granular ditto.
Ciliary ditto.
Purulent ditto.

Although I thus distinguish several forms of this disease, you must not suppose that they are always separate—always perfectly distinct from one another. This is by no means the case; they are, on the contrary, nearly always combined. Thus you will generally find two or three, sometimes even the whole four, present in the same eye. Each form, nevertheless, offers symptoms and characters peculiar to itself, which ought not to be confounded. We shall also find, shortly, that these distinctions are of great importance with regard to the prognostic and treatment of blepharitis, considered in a general view.

LIVING WORMS UNDER THE CONJUNCTIVA OF THE NEGRO.

Blot, of Martinique, has, like Bajon, of Cayenne, and Mongin, of St. Domingo, seen two worms in active motion under the conjunctiva, which he removed by incision. One of these, which was sent to M. Blainville, was thread-shaped, thirty-eight millimetres long, with a black protuberance adapted for suction.

Bajon remarked (1768) a serpentine motion of a worm in the eye of a negress, which, without giving pain, caused constant epiphora. When an incision was made, the worm went to another part, and was obliged to be secured with a small forceps. In a second case (1771) the conjunctiva was more inflamed; the patient refused to submit to operation. In Blot's case (1828) the worm lay on the outside of the eye, and sometimes turned round a portion of the corner, causing stinging pains and nervous symptoms, arising probably from fear. The patient, an African negress, was unable to tell where she came from, or whether her fellow-country people were subject to this disease. A surgeon at Mompox (New Grenada) offered to extract this worm, but his services were refused. The worms found by M. Guyon were not of the species termed Filaria Medinensis, which are found in abundance amongst Africans, and could not be secured by the forceps.—*Zeitschrift für die gesammte Medicin*, Feb. 1839; and *Dublin Journal of Med. Science* for July.

ROYAL COLLEGE OF SURGEONS.

At a quarterly meeting of the council of the Royal College of Surgeons in London, on Thursday, July 11, Robert Keate, Esq., was elected President; and John Painter Vincent, and George James Guthrie, Esqrs., were elected Vice-Presidents of the college for the year ensuing.

BOOKS RECEIVED FOR REVIEW.

Diary of the Rev. John Ward, A.M. Vicar of Stratford-upon-Avon; extending from 1648 to 1679; from the original MS. preserved in the Library of the Medical Society of London; arranged by Charles Severn, M.D. Member of the Royal College of Physicians, Registrar to the Medical Society of London. pp. 315. Colburn, 1839.

A Treatise on the Medical Jurisprudence of Insanity. By J. Ray, M.D. Clark, Edinburgh, 1839.

The Analysis and Medical Properties of the Tepid Springs of Buxton; with Cases and Observations, by Sir Charles Scudamore, M.D. F.R.S. Churchill, 1839.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, July 11, 1839.

Wm. Love Street, Exeter, Devon.—George Mayris Sylvester, Trowbridge. Wilts.—Francis James Bellingham, Windmill Hill, Sussex.—Wm. Donald.—Thos. Woollett, Usk, Monmouthshire. —Walter Edwin Chilcote, Brixham, Devon.—Charles O. Baylis, Liverpool.—Edmund Guest, 30, College Street, Chelsea.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *July* 16, 1839.

Abscess	1	Hooping Cough	1
Age and Debility	10	Inflammation	1
Apoplexy	3	Bowels & Stomach	1
Asthma	2	Lungs and Pleura	2
Consumption	21	Measles	17
Convulsions	15	Small-pox	2
Dentition	3	Sore Throat and Quinsey	1
Dropsy	7	Stricture	1
Dropsy in the Brain	4	Unknown Causes	40
Epilepsy	1		
Fever	6	Casualties	5
Fever, Scarlet	10		

Decrease of Burials, as compared with the preceding week . . . 46

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

July.	Thermometer.	Barometer.
Thursday . 11	from 55 to 75	29·92 to 29·86
Friday . . 12	59 72	29 76 29 88
Saturday . 13	52 74	29·97 30·04
Sunday . . 14	52 70	29·92 29·84
Monday . . 15	56 72	29·93 30·04
Tuesday . . 16	48 69	30·08 30·04
Wednesday 17	46 69	30·03 29·74

Prevailing wind, S.W.

Except the 12th, 14th, and 17th, generally clear; rain fell on the 12th, 14th, and following day; lightning during the evening of the 17th.

Rain fallen, ·075 of an inch.

Charles Henry Adams.

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SATURDAY, JULY 27, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Pathology.—With respect to the proximate cause of this form of disease, Dr. Prout believes we may suppose it to consist in a diminished or suspended action of the usual acidifying powers of the kidney, and the formation, instead of lithic acid, of a greater quantity of alkaline matter than natural, as urea (equivalent to ammonia), and particularly of magnesia and lime. We have already seen that the urine in this affection often abounds in urea, and that it also contains a sort of muco-purulent matter, thrown off from the mucous lining of the bladder and urinary passages. Now this must arise from some peculiar irritable condition of the mucous surface, not absolutely inflammatory, but partaking more of the congestive character*. When the triple crystals are deposited, the bladder, generally speaking, is not yet much engaged in the affection; but when the fusible phosphates appear, then the whole mucous linings may be considered as suffering, and secreting more or less of this tough ropy mucus. This mucus is generally alkaline. It contains two saline principles, the one carbonate of soda, and the other phosphate of lime. From the carbonate of soda which it contains, it derives its alkaline reagency, and power of reddening turmeric. Here is some of this mucus and distilled water slowly filtered from it, as you see, has a strong alkaline reaction. The phosphate of lime we can easily demonstrate, by burning it and examining the ash, or by dissolving out the phosphate by a diluted acid, and reprecipitating by a neutralizing agent. This mucus sometimes so abounds in phosphate of lime that it appears in white streaks; in others, in which it is more abundant, it appears in irregularly-shaped white masses, and plastic, like mortar.

Urea, by the action of fixed alkali, is converted into carbonate of ammonia, and thus one of the elements of the triple crystals is furnished abundantly. Therefore, if urine be alkaline, we may expect that the triple crystals will be formed. Alkaline urine is a source of irritation to the membrane lining the urinary passages, and produces that congested state which is attended with the formation of this mucus. If this begin in the kidneys or ureters, the congestion speedily extends to the bladder, and all the mischief is increased. But it would also appear that even phosphate of lime may be secreted in unnatural quantity by the urine; and if the excess of acid holding these principles in solution be neutralised by the generation of any alkali, as ammonia, the triple crystals, or the fusible phosphates, according to circumstances, may appear. However, neither affection probably prevails long without inducing the other; and the joint result may originate from either as the primary affection.

Treatment.—There is no occasion to consider the treatment of each of these forms

* "This inflammatory action, however, if it be worthy of the name, must differ from common inflammation; for in one instance in which a small calculus was contained in the bladder, and in which a large quantity resembling that passed in the present affection had almost constantly for years been secreted by the inner coat of that organ, this entirely disappeared when acute inflammation of the common kind was excited in the bladder, owing to the patient having imprudently taken a long journey in a rough carriage."—Prout on Diabetes, &c., p. 245.

separately, since the principles are the same, and differ only in the degree and extent in which they are applicable. One of the primary indications is to reduce the general and unnatural irritability of system, to invigorate the frame, and to give tone to the digestive and urinary organs by tonics, astringents, and other appropriate remedies. The next indication is to correct the morbid conditions of the urine, so as to counteract and prevent those results which must inevitably take place from the uninterrupted continuance of such morbid conditions.

With the view of diminishing the unnatural irritability of system, nothing is superior to opium; indeed, Dr. Prout states that in severe affections of the second class (the amorphous fusible phosphates), opium is the only remedy that can be employed with much advantage to fulfil the first indication; and all who have had occasion to try the several sedatives in these affections must yield the palm to opium. It must, too, be given in large and repeated doses to prove effectual; for instance, from one grain to five three or four times a day; and, indeed, the system bears such large doses well, for the relief experienced counterbalances, or rather counteracts, the injurious effects which would otherwise result from such large quantities of opium. Smaller doses, from their stimulating agency, would do harm by exciting the system, and inducing a low degree of fever, which would prove highly distressing.

The form or preparation in which opium may be best administered must depend upon circumstances; for in some one preparation will agree, and in others a different. The pilula saponis composita of the London Pharmacopœia is a very good preparation, and often agrees well; but when we wish to give large doses, as this preparation contains but one grain of opium in five of the pill-mass, it will be better to select some less bulky preparation; but in all cases we must select that which agrees best with the patient's constitution. Thus I have known individuals with whom no other preparation would agree, or at least so well, as the liquor opii sedativus. But when the salts of morphia agree, they are by far the best and by far the most efficacious. Of these, the hydrochlorate and the sulphate—as more permanent in their composition, and consequently more uniform in their strength and operation—are the preferable. Of these, from one grain to two or three may be given three or four times a day, according to the urgency of the symptoms; and it is astonishing what quantities of opium patients of this sort will sometimes bear, not only with impunity, but, indeed, with decided benefit and improvement of the health. When the gravel is crystallized, consisting of triple phosphate, the treatment is the same, but less energetic; but in the fusible phosphates, opium not only may, but of necessity must, be pushed to the utmost extent. By these means the patient, if not completely relieved, will soon find his sufferings greatly alleviated; and this alone would be quite adequate to the improvement of the general health.

Having effected so far an improvement, we may begin to alter and improve the chemical condition of the urine. It has been stated that the urine, if not alkaline, is at least neutral, and soon becomes alkaline; and therefore it is necessary to use those agents which will correct this tendency, or counteract its effects. Therefore with the opium or morphia we may combine some of the mineral acids, as the hydrochloric, nitric, but perhaps still more advantageously the phosphoric, as the one adopted by nature for holding the earthy salts in solution, and for the preparation of which a formula has been introduced into the New London Pharmacopœia*. The acid of the strength of that of the Pharmacopœia may be given in doses of from ℥xx. to ʒj. The hydrochloric, nitric acids, &c. sometimes disagree, and it has been then proposed to use the vegetable acids, as the citric; but they never answer so well as the mineral. The phosphoric acid, however, seldom disagrees†; and if it should, the probability is that so also will the vegetable acids.

In cases, however, where the acids disagree, and so far are objectionable, a solution of pure chlorine may be given; and, indeed, I have frequently given this with success. We have no formula for a solution of pure chlorine in the Pharmacopœia, but it is evident that such a solution may readily be prepared by passing the chlorine into distilled water, instead of the salines directed by the Pharmacopœia. The opium and the acids may be com-

* In a former lecture a process was pointed out for separating phosphoric acid from urine by lead. The process adopted in the Pharmacopœia for the preparation of phosphoric acid—the acidifying phosphorus by means of nitric acid—is, in my mind, an operose and unnecessary process, when phosphoric acid of any strength may easily be prepared by the decomposition of phosphate of lead by a current of hydrosulphuric acid gas. The obtaining of phosphorus is generally effected by the previous formation and subsequent decomposition of phosphate of lead; consequently the necessary precursory preparation of this salt would be no objection.

† Dr. Paris states that the phosphoric acid allays the insatiable thirst in diabetes better than any other drink. If apt to disagree, we might expect that this effect would be very likely to occur in the state of stomach predominant in diabetes.

bined, and at the same time colchicum, which appears to be a valuable remedy in almost every form of urinary disorder. Indeed, if the property of generating, or rather of promoting the secretion of lithic acid, attributed to it be just, there can be no question of its advantage.

With these, tonics, as the cinchona, but more particularly the preparations of iron, especially the sesquichloride, may be had recourse to. Likewise the urinary astringents, as the uva ursi, which is most advantageously administered in the form of extract, and may be combined with the extract of colchicum. Of the same description is the alchemilla arvensis, pareira brava, &c. These, though said to be diuretic, frequently by relieving irritation, produce a directly contrary effect.

At the same time we may adopt local measures to the loins, as plasters of pitch, galbanum, soap, ammoniacum, or the emplastrum ammoniæ. Any of these, by gently stimulating the surface, and at the same time affording mechanical support to the back and loins, afford great relief. I have found the belladonna plaster applied to the loins, after being previously irritated by some stimulant embrocation or plaster, highly beneficial, and procure comfortable and tranquil nights, when all other resources had proved comparatively inert. In some instances, however, setons or issues become necessary before any thing like permanent or effectual relief can be obtained.

The practice hitherto recommended is calculated to confine instead of to relax the bowels; and although diarrhœa, or any solubility of bowels approaching to this state, would prove highly prejudicial, by exhausting and debilitating the patient, yet a constipated state does great harm, by the irritation which fæcal accumulations excite in the system in general, and in the urinary organs in particular. There is a great tendency in this disease to irregularity of the bowels; and it is very often difficult so to manage as to effect the due regularity in their action. More frequently, however, constipation is the prevailing irregularity, and active purgatives are almost invariably followed by diarrhœa. Thus Dr. Prout states that he has seen the most serious consequences brought on by a small dose of calomel, which induced severe diarrhœa, with consequent debility, aggravating all the symptoms, and endangering the patient's life. Saline purgatives, but more particularly those constituted of a vegetable acid—the tartrates, for instance—are literally little better than poison. The principles upon which these agents are so injurious have been already explained. The best remedy in such cases is castor oil; and if this be not sufficiently active, a draught, consisting of infusion of rhubarb and a small portion of the powder, rendered a little more active by some purgative tincture, as of senna, will in most cases have the desired effect. But if not, the occasional recourse to a laxative enema will always, when assisted by the foregoing, produce a sufficient evacuation. Mercury in almost every shape is pernicious; and more have been sacrificed by the injudicious use of mercurials, under these circumstances, than perhaps would be imagined. I wish to impress this fact upon your attention, because the general symptoms and the sallow or half yellow countenance of the patient are such as apparently indicate the use of this mineral. But if the specific effects be once excited in the system, the devastation and ruin of constitution which immediately follow, though it may not, perhaps, convince you of the error, yet will speedily remove the unfortunate victim from the effects of his imprudence. However, there may be occasions in which a guarded use of mercury may be not only innocent, but absolutely necessary. When such do occur, the bichloride with hydrochlorate of morphia, and excess of hydrochloric acid (or even chlorine), as already mentioned, I believe to be the very best formula, and the least pernicious of all the methods of giving mercury. "Perhaps," says Prout, "the best mode of exhibiting it (mercury) in such cases is to combine it with opium, or with a purgative in some instances*." In my opinion, however, the formula already alluded to presents by far the preferable method of giving mercury; and one advantage which it seems to possess is, that it is not apt, specifically, to effect the system, while in many cases it will effect the purpose intended by the exhibition of a mercurial. But there is a still further advantage, that while effecting the one object we are at the same time improving, or at least endeavouring to correct, the diseased states of the urine by the excess of hydrochloric acid—purposes which cannot be conjoined in any other form of mercurial; but, as stated by Prout, if possible, the use of mercury had better be dispensed with altogether, or deferred till the distressing symptoms have somewhat yielded, and the patient recovered a little strength. In urgent cases, the substitutes for mercury formerly mentioned may be tried till a more favourable opportunity for giving the mineral presents.

I need hardly caution you against any use of the alkalies, than which nothing can be more pernicious in this diathesis, for they do not favour, but absolutely greatly

* On Diabetes, &c. p. 184.

aggravate the mischief already existing. Indeed, all diuretic remedies, and all remedies exerting any stimulating effect upon the urinary organs, should be most carefully avoided. The drinks should be of a soothing and demulcent character, and consisting of the softest and purest water, even distilled if possible: hard waters are highly pernicious in this diathesis, and therefore should be most carefully avoided.

We have been considering this affection in, perhaps, its most aggravated form; when, however, the symptoms are milder, and that the constitution has not suffered, or at least to no great extent, and that the irritation is chiefly local, in the urinary system itself, although the principles of treatment are essentially the same, still the means admit of some degree of modification. Here, perhaps, we shall not require so active a use of opium, or possibly it may be dispensed with altogether. For it we may substitute the extract of hyoscyamus, or the hydrocyanic acid, or both. Thus, the extract of hyoscyamus with that of uva ursi may be administed at intervals, and a strong infusion of the alchemilla arvensis, with occasionally a few drops of the hydrocyanic acid, will be found to give great relief. Here, too, purgatives may be given more freely, remembering, however, the tendency, and selecting always the milder, and least drastic.

In children, as previously stated, the triple crystals are sometimes very copiously deposited, and it is often very beneficial in such cases to purge freely, and even repeated doses of calomel and rhubarb produce the most beneficial results. The cases in which this practice may be beneficially employed are to be distinguished by the absence of the severe symptoms already noticed, and by the high specific gravity of the urine, which in some amounts to 1·020 or 1·025, and usually contains much urea. Purging, in such cases of diuresis, reduces the sp. gr. of the urine, and diminishes the quantity of the urea.

With respect to regimen, as air, exercise, diet, &c. they require to be properly regulated. When the symptoms are very severe, exercise, at least any of the severe exercises, greatly distress the patient and increase his pains. Indeed, he is totally unable to any exertion. But when the symptoms have been somewhat abated, then the more gentle exercises, and in moderation may be adopted with great benefit; but much of this must be left to the discretion of the practitioner, to be regulated according to the particular circumstances of the case. The diet, especially in the severe forms, should be light and nutritive, and in rather small quantity at a time. The digestion is usually much impaired, and therefore the more indigestible articles of food should be shunned. Dr. Prout advises an animal instead of an acescent vegetable one, as usually recommended, and indeed, reason approves what experience has confirmed. Vegetables are much more difficult of digestion, and are likewise much more prone to fermentation. Hence the debilitated stomach is not only called upon to perform harder duty, but the extrication of gases and consequent over-distension of the stomach and bowels; for the evil extends throughout the whole length of the intestinal tube, produce the greatest distress, and aggravates all the symptoms. Therefore, the milder, and at the same time not over-stimulating animal foods, may be directed: such are, for instance, mutton, poultry, and game, not too rich, are the best, and are generally found to agree well with the patient. Such a diet will keep up the strength, and at the same time not produce any distressing distension of the stomach. But notwithstanding that the diet should be principally animal, yet it is not intended wholly to interdict vegetables, especially farinaceous matters, and, indeed, a due admixture is best suited, even to a weak digestion. The selection of vegetable matters should be made consistent with the strength of the digestive powers. Therefore, green, esculent, and acescent matters, will prove injurious; whereas, the more farinaceous, as bread, and this rather stale, will be best. Watery diets, as soups, &c. from the over-distension which they produce, tend only to weaken the stomach, and impair the digestive powers.

With respect to the drinks, some of the light French wines mixed with water, if the patient have been accustomed to wine, may be taken in moderate quantity; but it should be recollected, that over-distension of the stomach will at all times impair the digestive powers, and increase any existing debility. The drinks, therefore, should be in moderation. Cider and perry also, if they do not disagree. Also our own malt liquors in moderation often assist digestion, but contrary to what at first view might be imagined, they ought not to be hard. When malt liquors, as ale, porter, &c. for instance, become what is known by the term "hard," in contra-distinction to that expressed by the term "mild," they prove injurious. The former depends upon incipient fermentation, and the generation of acetic acid. In the other, they contain a little carbonic acid, which renders them more grateful. There are many who prefer these beverages when hard; but so far as I have had an oppor-

tunity of seeing, they disagree with a weak stomach, and, still further, impair the digestion. Thus it is, that a stomach which will bear an acid well, will not endure the process by which the generation and evolution of that is effected*.

Lastly, the mind of the patient must be kept as composed and tranquil as possible. If this be not attended to, every other means will prove abortive. There is nothing that exerts a greater influence upon the progress of this disease than mental anxiety. Therefore, the patient's mind should be detached from all kinds of business, and distressing or agitating reflections, and it should be quieted by every means of soothing, as pleasant society, agreeable pursuits, and such amusements as are most congenial to the patient's habits and disposition. Such is a summary of the principal means of cure in the different degrees of the phosphatic diathesis. For some interesting cases upon this subject I must refer to Dr. Prout's work. The second form, which is the more rare, when it does occur is, for the most part, complicated with stone in the bladder; still it does occasionally occur without this complication. I have, within the last four years, seen three cases at the dispensary uncomplicated with stone. They seemed to have arisen from sprains or injuries to the back. With respect to the result, such patients will seldom continue sufficiently long under treatment to effect a radical cure, even were such attainable. When relieved, they will draw themselves from medical superintendence, as was the case in the above instances.

Stone in the kidney and ureter. — In a former lecture some account was given of stony concretions in the kidney, bladder, &c. When the lithic acid, which is by far the most frequent constituent of renal calculi, is not discharged or carried off, it increases and gives rise to the formation of a renal calculus. The general symptoms have been already described. If the circumstances be favourable, the calculus, after fever, vomiting, bloody urine, and most intense suffering, arrives in the bladder, and a remission of the symptoms succeeds. But if, from the size of the stone or from any other cause, it should not be discharged, but is retained, it gives rise to a number of very distressing symptoms. Thus there is a sense of weight and uneasiness, attended with dull pain, which is much increased by exercise, especially rough exercise—as on horseback or in a carriage over rough ground. Sydenham, who professed to be affected with stone in the kidneys, states, that when he walked much or rode over paved streets in a carriage, even though the horses walked gently, he passed bloody urine; but this did not happen when he rode on unpaved roads; the urine passed then, though it looked terrible when voided, almost like pure blood, yet, soon after, it became limpid at the top, the blood clotting to the bottom*.

The calculi found, or rather originating, in the kidney, are mostly composed of lithic acid; next to this, the oxalate of lime. Cystic oxide is so very rare, that there can be but little said upon the subject; however, from what is already known, there can be no doubt of their renal origin. Renal phosphatic calculi, however, are very rare, although instances of their existence have been unequivocally demonstated. Their rarity, in all probability, depends upon various circumstances; but more particularly the increased diuresis which attends this diathesis; its being seldom an original source, and, indeed, the general circumstances attending the deposition of the phosphates.

When the symptoms of a renal calculus exist, as they may arise from disease of the kidney, we should examine the state of the urine to determine the nature of the diathesis, and endeavour to promote the progress of it along the course of the ureter, and ultimately its passage into the bladder. As this state of things is usually attended with some degree of inflammation, bleeding, if not otherwise useful, would be necessary on this account: but it favours the passage of the calculus by the exhaustion and relaxation which it induces. At the same time, leeches or cupping the loins will be necessary, and the immersion of the patient in a warm-bath will also prove highly beneficial, and afford great relief. The bowels should be opened by a dose of calomel, followed by castor oil; or if the urine indicate the lithic dia-

* The farmers and persons in the country all prefer malt liquor hard; but their digestive powers are usually much impaired, and I believe it is more owing to this, perhaps, than any thing else. One would also expect, that in such cases they would be much more liable to lithic deposits, and especially to gravel or stone of this composition. Gravel certainly is not very rare among this class of persons, but still not so common as from the above we should be led to suppose. But, however, they are more subject to other forms of urinary disease, especially irritation and disease of the kidneys and bladder.

* "Etinim cum bruma anni 1676, statim a soluto rigidissimo gelu diu multumque obambulassem, urinam mox reddidi sanguine pemistum; idque toties mihi usu venit, quoties vel multum itineris pedibus conficerem, vel in curru per platearum pavimenta veherer, quantumlibet lento equorum gressu; quod mihi tamen non accidebat, quoties per viam regiam, lapidibus non stratam, licet quam longissime, curru vectarer. Urina quam tum excernebam tametsi terribili sanguinis tantum non sinceri specie prodiret, non ita diu post sanguine in fundo seorsim grumescente, in summitate limpida et sui similis conspiciebatur."—Sydenhami Opera, p. 700.

thesis, the catharsis may be promoted by the Rochelle salts or soluble tartar, as before mentioned. In these cases, also, calomel and Dover's power may be given in alterative doses, till some effect has been produced in the system.

At the same time mustard cataplasms may be applied to the loins as counter-irritants. Blisters, generally speaking, are not useful in affections of the kidney; but when the severity of the symptoms has been abated, Dr. Prout asserts that their use is not only safe but beneficial. In most cases plentiful dilution is advantageous, and diuretics to a certain degree, and especially of the antispasmodic class. Thus for instance, I have found an infusion of juniper with nitric æther very effectual in such cases. In a word, the descent of the calculus along the ureter must be promoted by all the means compatible with the existing diathesis; and enough has been already said upon this subject. Hyoscyamus in large doses, so as to keep up a constant antispasmodic effect, ought to be exhibited.

Sometimes, however, the calculus is too large to pass through the ureter, and as its expulsion seems hopeless, then we can only endeavour to prevent its increase by palliatives and other preventives. The means, of course, will depend upon the existing conditions of the urine, and which have already been dwelt upon at sufficient length. As a means of counteracting the effects of the chronic form of disease necessarily induced, and preventing disorganization of the kidney, issues or setons in the lumbar region will be beneficial.

Stone in the bladder.—When the renal calculus has passed into the bladder under favourable circumstances, it is expelled through the urethra; but when retained, it becomes the nucleus for the further deposition of calculous matter. But, as already shewn, a nucleus may be any foreign substance introduced into the bladder—with which may be ranked clotted blood, hardened mucus, &c. When any of these occur, and that there is a calculous diathesis either existing or superinduced, a precipitation of the excess of this matter takes place, and thus the stone enlarges. A fluid is said to be saturated, when the temperature, remaining unaffected, it will not dissolve any other portion of a saline with which it is in solution. When, by an alteration of temperature, the solvent now takes up an additional quantity, or holds in solution an additional quantity, it may be said, in relation to the former condition, to be supersaturated. In such a case the solvent will let go such excess if the temperature be changed, or if there be a nucleus upon which it can deposit it, even though there be no alteration of temperature. To illustrate this by an example, you see in this flask a transparent limpid fluid. It holds in solution an excess of sulphate of soda, with which, in fact, it is supersaturated; still, as yet, it has deposited none, and you see there is no disposition to let go a particle, nor indeed would it, if there were no evaporation of the water, if left at rest. But if I introduce a small nucleus—for instance, any solid matter—you see an immediate separation takes place, and the solution arrives at the point of saturation. Now this is, at least in part, what occurs in the bladder. The renal calculus may be considered as placed in a solution of various salines; and if any of these happen to be in excess, so that the urine, as in the instance of the solution of Glauber's salts before you, be in a state of supersaturation, the excess will be deposited upon the nucleus.

The point of saturation at the same temperature is fixed, but that of supersaturation depends upon a variety of circumstances. The urine does not always hold an excess of any of its salines in solution; but as circumstances arise so as to cause the generation and predominance of any of these principles, supersaturation will take place. Therefore, when the urine is supersaturated, it will deposit the excess; but when there is no excess, of course there will be no precipitation, and the bulk of the calculus will not be increased. Now this enables us to account for the different structures of calculi: for instance, some are laminated, shewing that the formation has been interrupted, and renewed again at distant periods, according as circumstances have arisen to modify the quantity of the saline in the urine, or, in other words, its saturation. When they have a homogeneous structure, then the deposition has been constant. Again, some consist of layers of different principles: this is owing to the diathesis changing, and the urine becoming supersaturated with the corresponding principle, and its deposition upon the nucleus, whatever its composition. Thus we can understand, not only the laminated structure of calculi, but also those laminæ consisting of different and distinct principles, and even the alternation of these with each other.

The general symptoms attending calculus in the bladder have been already enumerated, and therefore it is unnecessary to enter farther upon this subject; but it is evident that the calculus may consist of any one or more of the principles stated to enter into the different species enumerated. Therefore it will be necessary to make a few remarks upon each of these when in the bladder.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S.
Scrbon.

Description of the various forms of Blepharitis; viz. the Mucous—Glandular—Ciliary—and Purulent of New-born Children.

Mucous Blepharitis.

Mucous blepharitis is the "conjunctivitis palpebralis" of authors. When the inflammation does not invade the entire conjunctiva, it shews itself under the form of regular or irregular patches, the colour of which varies between a deep and a pale red. In all cases, the principal symptoms are the following:—The patient at first feels a prickling sensation in the inflamed part. This sensation he compares to that which any extraneous body (such as sand, for instance) would produce, were it placed between the ocular conjunctiva and the internal surface of the eyelids. On everting the palpebræ, you will perceive a great number of small vessels interlaced in every direction. The colour and size of these vessels are not uniformly the same. They appear gradually smaller as they approach the oculo-palpebral sinus; the redness also becomes less apparent as we recede from the free edge of the eyelid. Their mobility, the freedom with which they glide over the subjacent tissues, indicate clearly that they merely creep, as it were, along the surface of the mucous membrane. These three last characters must not be lost sight of; they will prove exceedingly useful towards establishing the diagnosis.

The functions of the eye are necessarily more or less modified by the inflammation. Generally the secretion of mucus is increased, and this, no doubt, is the reason why the Germans have given to this form of inflammation the name of "catarrhal blepharitis." I shall not, for the present, attempt to prove how futile are the grounds for such a denomination; I will merely observe, that I am perfectly at a loss to know why they should endeavour to render specific a symptom which we meet with in the most healthy patients, and which we can produce whenever we think proper. The mucus, generally clear and limpid, sometimes, however, of a grey purulent colour, is secreted in greater or less abundance, and accumulates in the inner canthus of the eye. In some instances the mucous membrane, swollen and thickened, forms a kind of circular fold around the globe of the eye, thus constituting one of the varieties of chemosis.

Instead of increasing, the secretion from the conjunctiva may decrease, or even be entirely suppressed. When this is the case, the mucous surface becomes dry and shining, and we have what several authors have called "dry ophthalmia, or taraxis."

Such is the first and least severe form of blepharitis. Under judicious treatment, it is generally cured in five or six days, and left to itself, disappears in from ten to fifteen, providing, however, the cause be removed.

Glandular Blepharitis.

The seat of glandular blepharitis, as I have already stated, is in the Meibomian glands. Let us examine the symptoms, by which we may distinguish it from the other forms of inflammation.

The prickling sensation, already described, is but slightly felt, and that only towards the external part of the eyelid. The sensation itself is modified; it seems to the patient as if small grains of sand were adhering to the margin of that organ. The inner surface of the palpebræ does not present reticulated patches, as in the mucous form, but a kind of vascular band, extending transversely, close to the free edge, the convexity of which is directed towards the eye. The vascular band is peculiar, the vessels being fixed and immoveable, and the redness gradually becoming more and more vivid as we approach the free margin of the eyelids. This appearance is at once accounted for, when we consider that the region presenting it is the principal seat of the inflammation. The most characteristic symptom, however, is the secretion from the Meibomian glands; this secretion, of a viscous nature and variable consistence, soon becomes concrete on exposure to the atmosphere, and collects between the cilia and the glandular edge. During sleep, when the eyelids are closed, the mucus hardens and glues them together in such a manner, as to render it nearly impossible for the patient to open his eyes, unless they have been previously moistened with warm water. If this precaution is neglected, some of the eyelashes are generally brought away by the efforts which are necessary, and this gives rise to small abscesses and ulcerations. The internal edge of the eyelid is nearly always rather swollen and prominent. Depending on the hypertrophy of the Meibomian glands, this slightly tumefied appearance of the inner margin will be detected at the first

glance by an experienced observer. There is neither photophobia nor epiphora, that is, when the glandular inflammation is unaccompanied by other forms of ophthalmia; indeed, although of more importance than mucous blepharitis, it is by no means a serious disease. It may exist during a lengthened period, and become even indefinite when not properly treated; this again may serve to distinguish it from the mucous form of inflammation. We must also keep in mind, when treating this affection, that the chronic form is extremely difficult to cure, and that, consequently, every effort should be made to get rid of the malady when still in the acute stage.

Sometimes the free edge of the vascular ribbon, which I have described as occupying the external part of the eyelid, becomes covered by a white concretion, of variable thickness. This constitutes the form I have designated under the name of diphterical blepharitis. The nature of the affection is implied by the name I have given to it. The surface of this pseudo-membranous layer occasionally presents small granulations of a silvery hue. This diphterical appearance of the eyelids is worthy of attention, as it constitutes a most unfavourable complication. We may generally expect, when it occurs, the disease to prove long rebellious to the most judiciously directed treatment.

Granular Blepharitis.

Granular blepharitis has never been described by authors as a distinct form of inflammation; the granulations it presents having been merely looked upon by them as one of the consequences of catarrhal or purulent ophthalmia. It may, however, be met with both in the acute and chronic state, and easily recognised, the peculiar characters it presents rendering it nearly impossible to confound it with any other disease, once the attention has been directed to its existence. I cannot, indeed, see why the mucous follicles of the palpebral conjunctiva should not be subject to diseases of the same nature as the mucous follicles of similar membranes, as, for instance, those of the lining membrane of the intestinal canal. That the affection has its origin in the mucous follicles will, I think, be clearly demonstrated by the description of the disease; and I feel convinced that the enumeration of the symptoms will leave but little doubt in your minds respecting the seat of the inflammation.

On examining with care the conjunctiva, we find that it presents a great number of exceedingly small granulations. These granulations, from their arrangement, may be compared to the papillæ of the tongue. At first they are perfectly distinct from one another; they soon, however, increase in number, and form a species of net-work extending over the entire mucous surface of the eyelid. On this granular net-work we also perceive a number of small vascular ramifications, of a pale red colour, interlacing each other in every direction. After a few days' duration, the vascular appearance sometimes disappears, the granulations alone persisting. When this is the case, we may conclude that the disease is assuming the chronic form. The patient suffers but little. The sensation of extraneous bodies between the eye and palpebræ is modified; it no longer appears to be caused by sand, as in mucous blepharitis, but by particles of finely pulverized dust. If the inflammation is severe the eyelids are generally more or less swollen; indeed, their volume may increase to such an extent as to conceal entirely the globe of the eye. When they present this appearance, we are often surprised on raising the eyelids to find the eye itself perfectly healthy. The disease may attack the upper or lower eyelid only, or both at the same time. When the upper eyelid is alone inflamed, and the inflammation is slight, it is not very easy to recognise the disease, owing to the difficulty experienced in raising the eyelid in such a manner as to examine it freely. This, however, may be attained by drawing the free margin of the eyelid towards the superciliary ridge, and then communicating to the tarsal cartilage a movement of *bascule*, whilst the patient is directed to look downward. There is scarcely any photophobia, and the secretion from the conjunctiva is not abundant.

This form of blepharitis resists with greater tenacity than any other the action of therapeutical agents; it is, indeed, exceedingly difficult, as we shall shortly see, to effect a cure.

Ciliary Blepharitis.

Ciliary blepharitis, known to surgical writers under the name of psorophthalmia, has been considered by some as a symptom of tinea. Such an opinion, however, is purely hypothetical, experience daily pointing out to us its fallacy. This disease is by no means rare, and must have become familiar to you, as we have continually cases in the wards on which you may study it. Although most authors have given but a short and imperfect description of this affection, it is, I assure you, worthy of all the attention you can bestow. Not only are its consequences often extremely disagreeable, when not well treated from the commencement, but

it may also give rise to nearly all the different inflammations of the eye. It is principally at the onset, when the symptoms are generally overlooked, that I should advise you to pay attention to this disease. At a later period, when the inflammation has existed for some time, it becomes extremely difficult to get rid of the complaint; indeed, it will often resist every means you may employ. In the first period there is merely slight itching and redness of the external edge of the eyelids. We have no sensation of an extraneous body, no photophobia or shedding of tears, nor are the natural functions of the eye in the least deranged; such are the forerunners of the malady. No one would suppose that this was the first stage of a disease which proves so rebellious to every species of treatment, and which may lead to most of the more serious affections of the eye. Generally, the persons thus affected pay no attention to these symptoms. Soon, however, the base of the cilia become covered with small yellowish scales, which the patient brings away on rubbing his eyes. These scales gradually become larger, more adherent, leaving behind them, when they fall, small ulcerations, on which there forms a thin incrustation. These incrustations are in their turn rubbed off, and are replaced each time by others. The small ulcerations furnish a kind of viscous, dark-coloured secretion, which adheres to the cilia, glueing them together in such a manner that several of the cilia uniting, form, as it were, small pencil brushes, giving to the eyelids a very peculiar appearance. If the disease be not then arrested, the cilia, whose roots are destroyed by the progress of the ulcerations, fall gradually, and the eye is sometimes entirely deprived of the protection they should afford. This state of the eyelids, as you may easily imagine, becomes a permanent cause of keratitis and conjunctivitis. The external edge of the margin of the eyelid is then of a dark red colour, and assumes a rounded, tumefied appearance. These are the symptoms ciliary blepharitis presents, when existing alone, without any complication. It is, however, generally combined with the glandular form of inflammation, and this combination gives rise to symptoms which vary according as the one or the other of the two affections predominates. When the inflammation of the ciliary glands is the more severe, the external free edge of the palpebræ being swollen, becomes slightly inverted, and the cilia are turned inwards, against the globe of the eye, thus constituting an entropion, which can only be cured by an operation. If, on the contrary, the inflammation of the Meibomian glands predominates, the symptoms are reversed. It is then the internal free edge of the palpebræ which is swollen, and consequently more or less everted, the cilia are therefore directed outwards. The whole of the cilia will fall off occasionally, leaving a naked surface, in some instances nearly a quarter of an inch in width. It is not a rare occurrence to meet with old people, whose eyelids have been long inflamed, in this state.

Purulent Blepharitis of New-born Children.

This disease has been improperly confounded by ophthalmologists with purulent ophthalmia, properly so called. They describe three forms of purulent ophthalmia: ophthalmia of new-born children, Egyptian ophthalmia, and gonorrhœal ophthalmia. I cannot, however, admit this division. The Egyptian and gonorrhœal ophthalmia do not so much attack the palpebræ as the eye itself; whereas the purulent ophthalmia of children is mostly confined to these organs; nor is it only the part affected which varies in these diseases; the symptoms are also different, and the prognosis is much less unfavourable in the one than in the other two. I shall, therefore, for the present, confine myself to the description of purulent blepharitis, deferring that of the two other forms of purulent inflammation until treating of the eye itself.

Purulent blepharitis of new-born children has been thus called, from its generally attacking children within the first fortnight after birth. It, however, sometimes occurs several months or several years later. I have met with it, at La Pitié, in a child twelve years old.

The etiology of this affection is exceedingly obscure; and although, as I have already stated, I intend deferring the consideration of specific causes until the termination of these lectures, I shall on this occasion depart from the rule I have laid down. Some authors, looking upon the disease as contagious, attribute it to infection from the mother, whom they suppose to be labouring under gonorrhœa or leucorrhæa at the time of birth. Such an explanation of its production, if applied to every case, in my opinion is perfectly inadmissible. Do we not meet with many cases of purulent ophthalmia, although we cannot possibly entertain any suspicion respecting the health of the mother? Have we not already seen that children may be affected with this disease some years after birth? We should also bear in mind that when the child traverses the vagina, the palpebræ are closed, sometimes folded inwards, as it were, towards the eye, and consequently the mucous surface is protected from external agents.

Vitiation of the atmosphere, the aggregation of many individuals in the same

locality, bad living, uncleanliness, &c. have been assigned as the causes of purulent blepharitis. They seem, indeed, well calculated to produce such an affection, but I can hardly admit that alone, they suffice to account, in every case, for its appearance. Do we not occasionally meet with this form of ophthalmia in the higher classes of society, although every law of hygiene has been observed. These considerations induce me to confess that in this, as in many other instances, the principal cause has hitherto eluded our observation.

Another question naturally presents itself to us. Are we to consider purulent blepharitis a contagious malady? The facts of which I am now in possession are not sufficiently numerous to authorize my giving a decided opinion on so important a subject. The disease is seen, it is true, in children who are not supposed to have been in communication with others similarly affected; but can we, in these instances, assert with confidence that no communication of any kind has really taken place? The subject deserves to be treated at length; but a serious examination of the different opinions which have been brought forward, would lead me too far. I shall, therefore, proceed to enumerate the symptoms which the disease presents.

The little patient seems at first to be inconvenienced by the light; the eyes are also evidently the seat of considerable formication, the child continually raising its hands to them. The free edges of the palpebræ are red, rather tumefied, covered by a thin layer of white glutinous matter, which unites and forms a kind of viscid mass in the inner angle of the eye. This is the first stage of the disease, and is the period in which the therapeutical agents that we possess against this complaint should be employed, in order to arrest its progress, which may yet be done. The practitioner must not, however, be deceived by the mildness of these premonitory symptoms. The inflammation soon attacks the palpebral conjunctiva, the secretion becoming, at the same time, more abundant. This secretion, at first liquid, transparent, and called by ophthalmologists *hydorrhœa*, becomes of greater consistence in the course of a few days, and is then termed *phlegmatorrhœa*. At a later period it assumes a greenish hue, and, from its resemblance to pus, is called *pyorrhœa*. The palpebral conjunctiva now becomes considerably thickened. The eyelids are also tumefied, the upper eyelid covering the lower one, in such a manner as to render it nearly impossible to raise it. The tumefaction is sometimes very considerable, so much so that the eyelids present the appearance of a large abscess. If you could see the inner surface, you would find it covered with granulations, which give it a fungus-like appearance. The purulent secretion, which flows copiously from the eyes, often produces considerable excoriation in the neighbouring parts. In the midst of these severe symptoms we are surprised to find that the eye is generally free from inflammation, and the cornea transparent. Indeed, it has been remarked by many surgical writers, that when the eye itself becomes inflamed, when there is purulent disorganization of the cornea, the patients are able to open their eyes; and that when, on the contrary, the eye remains healthy, the palpebræ are firmly applied to one another. Several attempts have been made to explain this circumstance. Might we not account for it by supposing that, in the first case, the cornea not allowing the rays of light to reach the retina, that membrane is no longer acted upon; whereas, when, on the other hand, the cornea remains transparent, the retina, from its increased sensibility, not being able to bear the impression of light, reacts on the muscles, which contract, and keep the eyelids in close apposition.

We have now examined the principal symptoms of the different forms of blepharitis. You must not however suppose, from my having described separately each of these forms, that they are always found isolated, perfectly distinct one from another. At the commencement, they often exist separately, but at a later period they are generally combined. Indeed, when we consider how limited is the seat of inflammation, we must acknowledge that it can hardly be otherwise. You will often meet with the mucous, the glandular, and the granular forms in the same patient. Ciliary blepharitis, when it has existed some time, is nearly always accompanied with inflammation of the Meibomian glands.

These diseases may also lead to local affections extremely annoying to the patient; they may even become the causes of much more serious forms of ophthalmia. Ciliary blepharitis, as we have already stated, is frequently followed, when of long duration, by the loss of the cilia; and their absence, besides disfiguring the patient, is a permanent cause of inflammation. Glandular blepharitis gives rise to the small tumors we often observe on the free margin of the eyelids—such as the hordeolum and the various kinds of cysts.

Granular blepharitis keeps up a permanent state of chronic inflammation of the cornea, and, when it presents the fungus-like appearance I have described, sometimes leads to different degenerations of

the eyelids. Even mucous blepharitis, the mildest of these affections, may invade the ocular conjunctiva, and give rise to conjunctivitis, properly so called.

GLEANINGS FROM THE NOTE-BOOK

Of a Young Physician in Italy.

[*For the Medical Gazette.*]

Walking one morning in the Largo di Santa Brigida, at Naples, my attention was arrested by a miserable looking wretch across the way, in rags and tatters, who lay on the ground convulsed to all appearance in the agony of epilepsy. The distorted limb, the foaming mouth, and seeming physical distress of the countenance; every feature, indeed, of this inexplicable and mysterious disease was here painfully and faithfully pourtrayed; so I crossed the road in the hope of seeing her safely provided for, even should I be unable in my professional capacity to serve her. I was struck at once by the very little sympathy she met with from the surrounding crowd, not a few of whom were even diverting themselves with her affliction. But the fact was, mine heroine had cried "wolf" too often, and was no stranger to her own order. Whilst absorbed by a mingled feeling of pity and indignation busy within me, the sound of an approaching carriage drew off the attention of the crowd, who made way for it to pass. But judge of my astonishment, when I beheld the object of my commiseration released from the reins of her disease, and foremost in the ranks of the retreating multitude. I stood still myself, dumbfounded at what I beheld, and scarcely able to accredit the testimony of my own eyes. But, sure enough, there stood the fact stark naked before me, and there stood I also, now wholly alone, the dupe of my own sympathy and humanity; so I moved on my way, to muse on the depravity of human nature, feeling the force of what Juvenal, in one of his Satires, says of some people or other—"The nation is a company of players;" and of impostors, too, he might have added, if speaking of the Italians. I certainly had gained nothing in the matter—not even the poor consolation of a little gratitude.

Nothing can show in a stronger light the viciousness of the people, and the weakness of the government, than the regular system of wholesale imposture practised in different ways amongst the populace, and under the very nose of their sovereign, who, by the way, is the greatest impostor of all. But when public spirit is extinct, and the people feel no interest in the preservation of morality, there is no longer any security for the fidelity of individuals, and too little encouragement to be virtuous.

Now, another species of impostor—the members of that family in Italy (the father of which, in great humility, denominates himself the immediate representative of our blessed Saviour upon earth)—is the priesthood. The influence of this body over the treatment of the sick is not less extensive than it is pernicious. I was asked one day by the parents of a poor girl living hard by my hotel, to visit their child, who was ill of a fever. I accompanied them to their miserable cabin, and found their daughter far advanced in the worst form of typhus, but still, as I believed, not hopelessly beyond the reach of our art. I prescribed for her accordingly, laying down very strict injunctions to be followed in my absence, and promised to return in the evening. Some six or seven hours afterwards I visited the sick house again; but was surprised to find no part of my treatment had been enforced, whilst the unhappy girl was now *in articulo mortis*. As I had not intruded any advice, but been expressly solicited to attend their child, this conduct on the part of the parents seemed at first sufficiently unaccountable. Another moment, and the film grew less dim on my mind's eye. I had scarcely beheld at first the greasy figure of a priest in the room, intent as I was upon my dying patient. Regardless of the presence of a stranger, this holy man advanced at the same time with myself to the bed-side of the girl, and, inquiring if his medicine had been administered, unfolded a paper containing a black salve, a minute portion of which, with homœopathic sagacity, he placed on her tongue, and turning round to the parents, commenced an intemperate harangue against the abomination they had been guilty of in seeking assistance from a heretic, (as

every Catholic is in the habit of considering the poor Protestants, (who would be sure to administer poison in place of balm to their ills. I did not remain to be further edified by the "say" of this preacher of the gospel; nor did I attempt the herculean task of disentangling their minds from the thraldom they had been brought under by their priest, whose influence I well knew no lay ingenuity of mine could oppose. And, then, the dark curtain of futurity was about to close for ever over the last act of life's great tragi-comedy.

Notwithstanding the little encouragement I had met with in this instance, I still "bore it with a patient shrug," and set out the same evening, at the urgent request of my servant, to play the good Samaritan a second time. My patient was a young married woman, and happened to live not only in the same street, but also immediately opposite the abode of the last. I found her labouring under a low form of delirium, which had made its appearance somewhat suddenly, and without any very manifest cause to explain its origin. A closer insight into her history inclined me to look further for an explanation; so that I was presently able to refer every existing symptom to a neglect of the use of the catheter, her husband confirming the manifest diagnosis I had made, by informing me that the bladder had not been evacuated for upwards of eleven days. I explained all this to her attendants in a very few words, described the facility with which I should be able to remedy the evil and restore her to health, and, in short, infused apparent joy into the hearts of all around. But the devil was "up and doing"—bestirring himself to defeat the good work I had intended. One short five minutes I was necessarily absent, in search of the instrument, and on returning to the house, descried a priest again preoccupying my place, and superintending my work. I know not whether he may have been invited, or conducted hither by accident; but, be this as it may, I was received by these poor dupes of bigotry and ignorance with manifest symptoms of distrust and repugnance, whilst every effort I employed to prevail on them not to sacrifice their relative to the interested insinuations of the wretch before me was unavailing, and the husband resolutely refused any further interference at my hands. I need not say a word in explanation of all this. The populace live in the utmost thraldom of body as well as mind; and whilst priest-ridden to a frightful degree, entertain so much reverence as well as fear for their powerful enslavers, that the artful machinations of the latter penetrate unopposed into their minds and understandings, and exercise a lasting influence over them. I represented, therefore, in peremptory terms, the certain fatality that awaited a neglect of the means I had recommended for her relief, and withdrew from the spot. I know not what followed; but sauntering by the door next day at noon, I saw the bodies of both my patients occupying the centre of their respective homes, now no longer warmed by the breath of life, but arranged in the vain pomp and trumpery gewgawism which are the constant attendants of a Catholic funeral, howsoever humble in life may have been the deceased. The doors of both these houses of affliction were wide open, and occupied by children and beggars, crowding forward to witness the scene within. There was no material difference in either. In the interior of both all was still and subdued—

> "An atmosphere without a breath—
> A silence sleeping there;"

save that, at intervals, a suppressed and long-drawn sigh of latent anguish broke upon the eye rather than on the ear, so slight and gentle—so very slight, that

> "Nothing lived 'twixt it and silence."

The members and friends of the family sat somewhat formally round the interior of the room, gazing fixedly at vacuity, and to all appearance dead to the uproar and curiosity of those who crowded round the door. The body lay at full length in the centre of the apartment, its face uncovered and bestrewed with flowers, whilst a row of five or six long wax-tapers, arranged in a line with the feet, threw out their cheerless illumination over the scene. The indifference with which the Italians regard the actual interment of their dead, when once removed from the place of mourning, is strangely contrasted with the anxiety they feel for a display of pomp and raree-show prior to the surrender of the body into the hands of those whose business it is to bury it. For the indulgence of this national feeling the mean-

est wretch in Italy contributes during his lifetime the sum of a few *grana*, or half-pence, monthly, towards a fund set apart for the provision of such paraphernalia as are deemed indispensable on those occasions. The description given by Matthews, in his beautiful Diary of an Invalid, of the funeral ceremony I am speaking of, is so faithful to the reality, and so correct an account of what I beheld on this occasion, that I cannot do better, perhaps, than give his own account of it:—"In my way home I met a funeral ceremony. A crucifix hung with black, followed by a train of priests with lighted tapers in their hands, headed the procession. Then came a troop of figures dressed in white robes, with their faces covered with masks of the same materials: the bier followed;" [Dr. Matthews might have explained, for the benefit of those who may not have witnessed such a scene, that this bier is the principal attraction in the train. It is an elegant-looking mausoleum, supported on purple velvet, richly carved in itself, and ornamented at every point with massive gilding. On this the body is usually exposed more or less naked] "on which lay the corpse of a young woman, arrayed in all the ornaments of dress, with her face exposed, where the bloom of life yet lingered. The members of different fraternities followed the bier, dressed in the robes of their orders, and all masked. They carried lighted tapers in their hands" (which are of wax, about four feet in length, and not thicker than one's ring finger), "and chaunted out prayers in a sort of mumbling recitative. I followed the train to the church, for I had doubts whether the beautiful figure I had seen on the bier was not a figure of wax; but I was soon convinced it was indeed the corpse of a fellow-creature, cut off in the pride and bloom of youthful maiden beauty. Such is the Italian mode of conducting the last scene of the tragi-comedy of life. As soon as a person dies, the relations leave the house, and fly to bury themselves and their griefs in some other retirement. The care of the funeral devolves on one of the fraternities, which are associated for this purpose in every parish. These are dressed in a sort of domino and hood, which, having holes for the eyes, answers the purpose of a mask, and completely conceals the face. The funeral of the very poorest is thus conducted, with quite as much ceremony as need be." After this point in the mournful ceremony, the Italians are wholly indifferent as to the disposal of the body itself, which they regard "as no more a part of the departed spirit than the clothes which it has left behind." It is surely a comfortable religion which can instil this sort of feeling into the mind—which assures us that our departed brother or sister has been transported at once into a place of eternal happiness, there to continue whilst an occasional mass is offered up for his soul.

As soon as the funeral service is concluded, the corpse is stripped, and consigned to those who have the care of the interment. Those who can afford it, or whose condition requires it, are deposited in vaults, erected in the churches for the reception of the dead, being previously laid in a wooden shell before they are cast into these Golgothas. But how fares it at Naples with the people, strictly so speaking—the great bulk of the population? After this fashion: at the still hour of night, when nature is reposing from her labours, and the city at large in a deep slumber, the "dead carts" parade the streets, to pick up at the different chapels the bodies which have been deposited there during the day. Into these they are tossed indiscriminately, "heads and tails," men, women, and children, most of them in general without a rag to cover them. As soon as the churches have vomited forth their contents, the dead carts move off slowly towards the Campo Santo, the public cemetery of Naples, a spot which lies two miles without the city, on the brow of a hill skirting the road to Capua. So I joined in the wake of this interesting freight, and followed the dead to their home.

The Campo Santo is a quadrangular space, inclosed within four white walls of considerable height. The area is clean and well paved, and subdivided into three hundred and sixty-five compartments, signalized by square slabs of stone, into the centre of each of which a heavy iron ring is inserted. And here the dead carts brought up at length, wheeling heavily over the pavement, until they arrived at the particular pit to be opened. I need not mention what is now pretty generally well known, that each of the square stones above mentioned is the roof of as many vaults

or pits, one of which is opened afresh every day in the year, for the reception of that day's dead. The men in attendance fixing now a moveable lever into the ring in the stone, raised up this superstructure, and exposed the hidden secrets of its interior. As a year had elapsed since it had been opened, there was only to be seen a mass of corruption and decomposition, from which an intolerable effluvia burst forth to tell the tale of what poor human nature must come to. The carts having been brought to the extreme brink of the vault, the head-pin was removed, the tail-board displaced, and all that was left of "the weary and the wicked" hurled without compunction into the deep abyss beneath. Some slack lime was then thrown in, the slab replaced, and would be cemented up on the following day, to continue untouched till the following year. Adjoining this lay the pit in which the dead of the preceding night were entombed. The *custode* of the place obligingly opened it at my request, when I beheld the outline of the bodies which had been deposited there the day before. The moon peered down in liquid splendour on the revolting spectacle, and exposed about thirty carcases to my eye. Uppermost lay a dead infant, half concealed by the head of a woman that rested on it. The latter was without shroud, and had been young—perhaps, too, beautiful. Her hair depended over her bosom in matted tresses of gore; whilst the arm of one side appeared, from the unnatural position it maintained, to have been completely dislocated or broken, the effect, perhaps, of some violence done it during the savage mode adopted for interment. Somewhat more in the background, my eye encountered a couple of bodies, evidently brought hither from the dissecting-rooms, the arm of one bearing evidence of recent amputation, whilst the decapitated trunk left no doubt on the subject. The other was not less mutilated; the limbs were variously disfigured in the line of the great arteries, which had probably been "taken up" by the students of one of the schools in the city.

I have indulged in no exaggeration in the above picture—added no superfluous varnish to the tale—plain and unadulterated it stands to speak for itself, and to speak to the sympathies of the world. Can the conception of man conjure up aught more revolting, more indecent, more humiliating, than such a consummation. For man—I should particularize, perhaps, my fellow-countryman—in whose breast there always resides a prejudice, is sensitively alive to every circumstance which can tend to rob him of the least portion of those little household comforts and attentions which he lavishes on the dead body of what he has loved. They are called—perhaps they are — weaknesses here; but they are weaknesses incident to humanity. What was the elegant and gentle Matthews about when he could extol this state of things? Not, I believe, that he was in love with their mode of interring their dead; but with their advantage over us in the indifference they are able to feel about the real value belonging to the body after death. It reminds me of what a famous critic has said on the sentimentality of poor Sterne—"That a dead donkey was of more consequence in his eyes than an indigent mother." Hear, too, how the classic Eustace delivers himself on the subject of Neapolitan interment. We find him positively enamoured of this foul charnel-house — this Campo Santo! "It stands," says he, "on a rising ground, and the road that winds up the hill to it is lined with cypresses. A vault is opened every day in the year, and the bodies to be interred deposited in order. All is done gratis, and the expenses requisite supplied by public charity. It is to be regretted that this method of burying the dead has not been adopted in every hospital and parish in Naples, and indeed in every town and city, not in Italy only, but all over Europe." "It would be difficult to discover one single argument, drawn either from the principles of religion, or the dictates of reason, in its favour" (*i.e.* in favour of *our* mode of burial), "while its inconveniences and mischiefs are visible, and almost tangible." I am willing to believe the distinguished writer, whose words I have here quoted, had not familiarized himself with the details of the history of the Campo Santo; certain it is, he could not have witnessed such a spectacle as I have described above.

"The disposal of the dead (says a beautiful writer) is as true a test of civilization in a community as the social relations of the living;" and I am sure that much of a people is learnt from

this. Not that I pretend to decide whether an Englishman loves his father and mother better than other nations do, because more decency is observed in their funerals. "One of the oldest illustrations (I quote, I think, from Bulwer) of national prejudice, is to be found in Herodotus: the Greeks, in the habit of burning their fathers, were wonderfully indignant at the barbarity of the Callatii, who were accustomed to *eat* them. The Persian king summons the Callatii before him, in the presence of the Greeks. 'You *eat* your fathers and mothers; a most excellent practice!—pray, for what sum will you burn them?' The Callatii were exceedingly disgusted at the request. The Callatian and the Greek experienced filial affection in an equal degree; but the man who made a dinner of his father would have considered it the height of atrocity to have made a bonfire of him."

How different this Italian mode of burial from almost every other—even from their own, of remoter ages; for we read of a certain Roman emperor having spent a fortune and a life time in the erection of a pavilion of eastern splendour, for the reception of his body after death. The attention of the Egyptians to their dead is strongly contrasted with this modern feeling in Italy; although it is certainly offered, in explanation of their disposal of the body, that they believed the soul to live as long as the former continued undissolved, and therefore tried this method of embalming to elude death: and yet the Italians have the greatest and most touching philosopher that ever lived on their side here, contending for the utter worthlessness of "this vile body" after death, and hallowing, by his own example, a form of interment which dogs would turn cravens at, could they know such were destined for them.

"It concerns me not," says Socrates to Crito, "what is done with me when I am dead; *facilis jactura sepulcri:* I care not, so long as I feel it not. Let them set mine head on the peak of Teneriffa, and my quarters in the four parts of the world,

—— 'cœlo tegitur qui non habet urnam;'

the canopy of heaven covers him that hath no tomb."

M. B. G.

July 24, 1839.

FATAL CASES

OF

OBSTRUCTION AND ENORMOUS DISTENTION OF THE BELLY,

Arising from a peculiar Conformation of the Colon.

By Andrew Buchanan, M.D.,

President of the Glasgow Medical Society*, and one of the Senior Surgeons to the Glasgow Royal Infirmary.

[*For the London Medical Gazette.*]

I propose, here, to lay before you some observations upon a very rare disease, of which it has been my fortune to meet with three cases. This disease is attended with symptoms which are quite peculiar and distinctive. It produces as much acute suffering as any of the most formidable diseases to which the human species is subject; and, notwithstanding the most powerful means employed to arrest its progress, it has invariably gone on to a fatal termination. It is, farther, interesting to the medical inquirer, from being a disease not generally known, and of which the true nature has not, as appears to me, been hitherto understood.

It will be seen, from the remarks which follow, that the disease in question is always attended with, and, according to my view, is necessarily dependent upon, a peculiar primordial formation of the colon, which, to avoid interruption hereafter, I shall commence by describing.

The colon is more subject than any other part of the intestinal canal to vary in length and in mode of disposition; or, which comprehends both, in the course which it follows through the abdomen. Upwards of twenty examples of such variations will be found recorded in the works of Morgagni. The most common of these variations is that observed in the transverse arch of the colon, which, instead of running straight from right to left, immediately under the liver and stomach, is incurvated downwards, so as to reach the umbilicus†, or even the urinary bladder‡. Morgagni has recorded an example of the right colon not running

* Read before the Society, 6th Nov. 1838.

† Morgagni de Sedibus et Causis Morborum, Epist. xxxiv. art. 2, 3; iv. 16, 30; xix. 19; xx. 16; xxi. 33, 35; xxix. 12; xlviii. 38; lii. 12; lix. 12; lxii. 7; lxx. 7.

‡ Id., xvi. 8; xxxiv. 2; lvii. 12.

straight from the iliac to the hypochondriac region, as it usually does, but instead, being so much inflected that the cœcum was in contact with the transverse arch of the colon under the liver*. The same author likewise describes a case in which the colon, after observing its usual course as far as the stomach, passed thence right down to the sacrum, in front of the small bowels †. A case will be narrated hereafter, in which the colon, after arriving by the usual route at the left kidney, passed thence to the umbilicus, and from that point right downward, between the tract of the recti muscles, to terminate in the rectum. A double variation in the course of the colon was, in one instance, observed by Morgagni, the transverse arch being inflected downwards; and, further, the left colon, after reaching the kidney, returning to the left hypochondrium, and passing thence obliquely towards the sacrum ‡. Instances are not unfrequent of the sigmoid portion of the colon deviating from its usual course. It sometimes passes from the left groin across the fundus of the bladder to the right groin, and thence ascending and turning to the left, it goes over the top of the sacrum to form the rectum §. This is, indeed, described by Glisson as the usual course of this portion of the colon ||. A case is described by Morgagni, in which the sigmoid flexure of the colon lay almost completely in the umbilical region of the abdomen ¶.

These examples are here adduced, not merely to show how much the colon is liable to vary in its course, but because a knowledge of such varieties is of high importance to the physician, who, if ignorant of them, would, as has been remarked by Morgagni, be apt to fall into error in estimating the seat of many affections of the intestines. There is, however, only one of the varieties enumerated above which has been known to produce a disease at all analogous to that which I am about to describe.

The only variety of conformation in the colon which remains to be mentioned, is of the same kind as the two last enumerated; but I have kept it separate, from its constituting the most common predisponent cause of the disease to be here treated of. That it is a rare variety must be obvious from the circumstance of its having escaped the diligent research of Morgagni*. While, however, it is very rare in Italy, it may probably be much more common among the inhabitants of the British isles: at all events, within a period of little more than seventeen years, seven examples of this variety of conformation have been observed in Scotland; five of them in Glasgow, and two in Edinburgh; but the individuals in whom they were observed were not all natives of Scotland. Of these seven cases, I have myself seen four. The first I saw was in the year 1819; but in it, and in the two next cases which occurred to me, the peculiar disease arising from this formation of the colon had been induced, and I shall not, therefore, anticipate the history of them. In the spring of the year 1832, in examining the body of a patient who died of cholera, I met with an example of the same formation of the colon, which had not excited any similar disease.

A case of exactly the same kind occurred to Dr. Hunter, Andersonian Professor of Anatomy, in 1831 †. The colon observed its usual course as far as the left groin, when it again ascended as high as the transverse arch immediately under the liver, and then, turning to the right side, it descended into the pelvis. This was exactly the disposition of parts observed by myself, in the case occurring in 1832; and, in both of these cases, it is worthy of reremark that the colon entered the pelvis upon the right side of that cavity. In other cases, however, as will be seen hereafter, the colon descended into the pelvis, as usual, over the promontory of the sacrum; and, in one very remarkable case, the colon, crossing from the left to the right groin, ascended parallel to the right colon, and then, turning to the left, descended near the mesial line of the body into the pelvis.

The following more particular account of the form and connections of the colon in the patient carried off by cholera, I extract from my note-book, where

* Morgagni, Advers. iii; Animad. 14.
† Id. de Sedibus et Causis Morborum, xvii. 25.
‡ Id., Epist. 62, art. 5.
§ Id., Adversar. iii.; Animad. 6.
|| Glisson, De Ventriculo et Intestinis, cap. xi. sec. 16.
¶ Morgagni, Epist. 43, art. 22.

* Haller mentions this variety, Element. Physiolog., tom. vii. lib. 24, sec. 15.
† Glasgow Medical Journal, vol. iv. p. 19.

it has for title, "Anomalous Distribution of the Sigmoid Flexure of the Colon." The sigmoid flexure of the colon, instead of lying in the left iliac region, and having its meso-colon attached to the left side of the pelvis, stretched obliquely across in front of the small bowels, in the direction of and nearly as high as the gall-bladder. It then turned so as to form an acute angle, and, passing down parallel to the ascending colon, it entered the pelvis on the right side to form the rectum. Where the colon entered the pelvis, it was attached to the right side of that cavity by a fold of the peritoneum, exactly as is usually seen on the opposite side: the remaining portion of it was kept *in sitû* by a very unusual attachment, the omentum supplying the place of meso-colon. The left side of the omentum lay free, as usual, on the surface of the small bowels; but the part arising from the right half of the transverse arch, and also that coming from the right colon, embraced the contiguous portion of the sigmoid flexure, and, descending from its inferior edge, terminated, by a well-defined margin, at the brim of the pelvis. In consequence of this disposition of parts, the omentum did not admit of being lifted up, as usual, except on the left side; its attachment to the sigmoid flexure prevented it from being raised on the right side, but the hand could be passed between these parts and the small bowels, showing that there was no adhesion of any kind between them.

Of the deviations from the usual conformation of the colon described above, those occurring at the proximal or middle portions of the intestine do not appear to be productive of any disease or inconvenience to the individuals so constituted *. On the other hand, the deviations which occur at the distal extremity of the colon have been, in several instances, found to accompany a very severe disease, which, so far as I know, has never been observed when the colon was of the usual conformation, and of which, therefore, the abnormal conformation of the colon must be considered as most probably the cause. Of this disease, the first example which I had an opportunity of witnessing occurred in the spring of 1819, and was treated by Dr. Andrew Duncan, jun., in the clinical wards of the Edinburgh Infirmary. The next case occurred about two years afterwards, at the Glasgow Infirmary, where I was, at the time, house-surgeon. This case, in the absence of the attending physician, was chiefly treated by Dr. Lawrie, then one of the physician's clerks. The third, and only other case which I have seen, came under my own care in the year 1825.

In all of these cases I believe the disease to have been essentially the same; the leading symptoms and appearances on dissection, being very little different, although, as will be seen hereafter, there is some room for difference of opinion as to the precise mode in which the disease originated.

In attempting to sketch the history of this affection, I shall chiefly refer to the case last-mentioned; as I am more intimately acquainted with it than with the other two, in consequence of my having attended the patient during the whole course of his complaint, and examined his body after death.

James Connel, apparently from forty to fifty years of age, residing in Stockwell Street, came under my care towards the end of June 1825. He had been long subject to constipation of the bowels, but never to such a degree as to injure his health, which had been tolerably good. For some time previous to my seeing him, his bowels had been more confined than usual, and he had been troubled with flatulency and swelling of the belly. On examining the belly, I found it to be very much distended, and the swelling had all the characters of tympanites, being soft, elastic, and resounding on percussion. His pulse was not affected, and he complained only of the uneasy sensation occasioned by the flatulent distention of the belly. He was ordered a dose of calomel and jalap, which produced no effect. Castor oil, Epsom salts, senna, aloes, colocynth, scammony, and elaterium, were all tried successively, or in combination, but all to no purpose; not a particle of fæces, nor any flatus, was discharged. Injections, both simple and medicated, were alike unavailing. Among the latter employed were a strong solution of sulphate of magnesia, in an infusion of senna, and a solution containing six grains of tartar emetic. Not the least difficulty was experienced in throwing up the injections, but they came away, either im-

* Morgagni, Advers. iii. Animad. 14.

mediately or soon after, without any admixture of fæces. On examining the rectum, it was found quite empty, as far up as the finger could reach, and very large in diameter. The patient's friends, of their own accord, introduced a common candle into the fundament, and pushed it as high up as they could get it to go; but not the least relief was procured from it. Meanwhile, the swelling of the belly went on increasing, till it was truly terrible to behold, being carried seemingly to the utmost possible point which the animal tissues could endure, without actually giving way. In this miserable condition the patient lay on his back, with his legs bent, and his knees drawn up, to avoid all stretching of the integuments of the abdomen. The only other posture he could endure was resting on his knees and elbows. When questioned, he complained only of the violent stretching of his belly, the pain of which seemed to swallow up all other feelings. His mental faculties continued unimpaired to the last. The respiration was slow, and as if impeded, most probably from the elevation and immobility of the diaphragm. His pulse was slow, and with a full steady beat. These characters of the pulse continued the last time I visited him, the day before his death, which took place about eight days from the time I first saw him, and about twelve from the last evacuation of his bowels.

The body was examined the day after the patient's death. On opening the cavity of the abdomen, the colon, enormously distended, and occupying an unusual situation, was the first, and indeed the only object which presented itself, all the other viscera being concealed behind its convolutions. Four immense bags were seen running nearly parallel to each other, and in the direction of the length of the body; while another similar one ran, at right angles to them, at the upper ends. So extraordinary was this appearance, that, notwithstanding my having seen two similar cases previously, it was only after tracing the colon from end to end that I became satisfied that I had, as yet, seen no other part of the intestines. The colon observed its usual course, till it reached the left iliac region, when it made a sweep to the right, passing behind the pubis, and returning across the lowermost lumbar vertebræ; it then ascended, till it came in contact with the transverse arch, when, turning to the right, it descended to the sacrum; thus forming the two middle bags above described. Every part of the intestine was greatly enlarged in diameter, but the enlargement was greatest at its lower end, where it was not less than from five to six inches in diameter. The upper part of the colon contained chiefly wind, the lower part only fæces of a yellowish white colour, and of the consistence of very soft mortar. On lifting up the folds of the colon, the small bowels were found inflated to the uttermost: the stomach was empty, and of its usual size. There was no effusion of fluid in the cavity of the abdomen, and the peritoneal covering of the bowels exhibited no traces of inflammation, although there was a good deal of engorgement in the veins of the mesentery. The prostrate gland was much enlarged, and the dilated neck of the bladder contained upwards of twenty small angular calculi, consisting of uric acid.

It will naturally be asked, whether the examination of the body did not afford any explanation of the obstruction of the bowels? This subject I have deferred to the last, both on account of its importance, and because the obstruction in this case was ascertained to proceed from a cause quite different from that which has been assigned for it in all the other cases of this disease upon record.

In all these cases it was supposed that the obstruction proceeded from a twist of the colon, at the lower end of of its sigmoid flexure. In the present case there was no twist, but there was a cause of obstruction more powerful than if the intestine had been (which I believe to be impossible) twisted completely round. To understand the nature of this obstruction, it is necessary to call to mind the description of the colon given above. After leaving the left iliac region, the colon crossed the mesial line of the body, behind the pubis: immediately returning, it ascended on the left side as high as the transverse arch, and then it descended on the right side, keeping in front of the inflated small intestines, till it turned back over the promontory of the sacrum, to be bound down to the anterior surface of that bone by the peritoneum. Now, just at the point where it turned backward, and was most pressed upon by the in-

flated small bowels from behind, it was crossed in front by the beginning of the ascending portion of its own sigmoid flexure. This last part of the intestine was very heavy; the whole lower part of the colon being, as stated above, filled with fæces, and containing nothing else. The infarction commenced somewhat below the middle of the descending colon, and extended to within three or four inches from the end of the sigmoid flexure, farther down than which the gut was completely empty. Now, what was it that arrested the descent of the fæces at this point? It obviously was the compression of the lower end of the colon, between one of its own massy convolutions passing it in front, and the distended small intestines and inferior end of the vertebral column lying behind it. The compression was exactly of the same kind as though the gut had been pressed in a vice, or between two fingers placed parallel to each other, one before it, and the other behind. At the compressed part the two sides of the intestine were in contact; immediately below, it was quite empty; immediately above, it was more than five inches in diameter, and gorged with fæces; and, on lifting up the anterior compressing portion, it left the mark of a quarter of a circle impressed upon the soft fæculent mass in the portion behind. This quadrant was exactly the measure of the distance between the completely distended and the collapsed part of the intestine. It was this remarkable impression upon the end of the colon that first attracted my attention, and, by leading me to examine how it was produced, discovered clearly the cause of the obstruction.

In the case which occurred while I was a student in the clinical wards of the Edinburgh Infirmary, in May 1819, the patient was a female, forty years of age. She had been long previously of a costive habit of body. During nine days preceding her admission to the hospital, nothing had been passed through her bowels, and the obstruction continued complete till her death, five days afterwards, notwithstanding the administration of the most powerful cathartics and injections. As in the case last detailed, no difficulty was experienced in throwing up the injections, and, on examining the rectum with the finger, it was found quite empty and unobstructed. The abdomen was distended to the uttermost, and the seat of a constant and most distressing pain: the swelling was of the tympanitic kind. The sufferings of the patient were much increased by whatever posture put the parietes of the abdomen upon the stretch, and some relief was obtained by relaxing them.

The appearances after death were very similar to those described above. The colon was enormously dilated, and so disposed as to conceal all the other abdominal viscera behind its convolutions. It exhibited two deviations from its normal course. As, in the last case, after reaching the iliac region, it ascended as high as the transverse arch, and, turning to the right, descended nearly in the middle of the belly to form the rectum: this was the portion of the intestine most dilated. The other deviation consisted in an incurvation downward of the right half of the transverse arch. What added much to these remarkable appearances was, that the colon was in many places of a green colour, like the surface of stagnant water, owing, as was conjectured, to the contents of the intestine being visible through its attenuated coats. About a pound of sanguinolent serum was found in the peritoneal cavity, and there were marks of inflammation both on the large and small bowels. At the termination of the colon in the rectum, the intestine was observed by Dr. Duncan to be twisted from left to right, and this he supposed to be the cause of the obstruction of the bowels.

Of this case an account has been published, with permission of Dr. Duncan, in the 16th volume of the Edinburgh Medical and Surgical Journal, p. 384. To that account I am indebted for some of the particulars stated above.

The last case of this disease, of which, as above-mentioned, I can speak from my own observation, occurred in the Glasgow Royal Infirmary in the year 1820 or 1821. I am unable to give the date with precision, having myself preserved no notes of the case; and, although Dr. Lawrie was kind enough to cause a diligent search to be made for the hospital journal, in which the history of it is recorded, his efforts were unsuccessful. The patient was a man of the name of Graham. His bowels had been in a state of obstinate constipation for some time before his admission into the hospital; the most powerful purgatives

produced no effect in moving them: injections, and every other means which Dr. Lawrie could devise, were alike unavailing. Of these means, one deserves more particular mention, from its being singularly well adapted to the treatment of cases of this kind, and because it was many years afterwards brought forward as a new discovery in practical medicine. An œsophagus tube was introduced into the rectum as far up as it could be passed, and along this tube injections were thrown into the bowels, but no discharge of fæces followed. The patient died after being in the hospital about eight days, and having suffered terribly from the pain in his belly, which was tympanitic, and distended to the utmost degree.

The dissection was performed by Dr. Lawrie and myself, assisted by our common friend, Mr. Robert Smith, then apothecary to the infirmary. We found the colon much dilated along its whole extent, and more especially towards its lower end. The sigmoid flexure exhibited the same abnormal formation as in the two preceding cases, being much longer than usual, and lying chiefly in the umbilical region of the belly, in front of the small bowels, having its ascending portion on the left side, and its descending portion on the right. The only cause of the obstruction of the bowels which we could discover was a twist or rather fold of the intestine to one side, where the colon terminates in the rectum. I did not feel satisfied of the adequacy of this cause to produce the effect ascribed to it, but I could discover none other. The small bowels were much inflated; there were no traces of peritoneal inflammation.

[To be concluded in our next.]

SUSPENDED ANIMATION IN STILL-BORN CHILDREN.

To the Editor of the Medical Gazette.

Sir,

In the year 1818, I published in the Edinburgh Medical and Surgical Journal some cases of suspended animation in still-born children, in which success had attended a long-continued perseverance in the process of artificial respiration. The impression produced upon my mind by those cases has never been lost: I have, in every instance which has since occurred to me, used vigorous efforts to save still-born children, and in many cases I have had the gratification of success; but I have never before met with a case quite so striking as that which induces me to trouble you with this communication, and which occurred in my practice but a few days ago.

I think it has happened in all my former cases that I have been present at the birth of the child, and the process of artificially inflating the lungs has been commenced immediately; but, in the present case, the expulsion of a still-born child was rapid, and almost instantaneous. It happened at two o'clock A. M., when I was at home, and in bed; and the nurse stated, that before the servant who was sent to call me had left the house, to her great consternation the baby was born. I took no particular notice of the exact time it took me to get up, dress myself, and arrive at the house, but I think it must have been at least from a quarter of an hour to twenty minutes. I found a still-born child, and was informed that there had been no crying, nor any sign of breathing whatever. It appeared that death had been occasioned by a faulty position of the funis; it had encircled both the neck and body of the child; the former the nurse had with some difficulty removed, but the twist round the body was so tight that she could not undo it. The body of the child did not present the slightest appearance of life, and I thought the prospect of restoration was feeble in the extreme. It was right, however, to attempt it. Having set the funis at liberty, I hastily wiped the child's mouth, and at once began breathing into its lungs. I have various tubes for this purpose, but I never use any one of them: I find, or at least fancy, that nothing is so efficacious as my own mouth, and for this purpose I usually have with me a bit of leno or coarse muslin to place over the child's mouth to render the work a little less disagreeable. I continued breathing, with the child in this situation, for a minute or two, and then, observing the funis quite cold and collapsed, I hastily separated it, got the child into hot water, and gave myself a more convenient and agreeable situation for continuing the process. It seemed un-

fortunate that I was twice obliged to leave my baby, though but for a moment, on behalf of her mother, as my patient at her last confinement, after a favourable expulsion of the child, had very nearly lost her life from flooding, caused by the retention of a portion of the placenta in an hour-glass contraction of the uterus, in consequence of which the utmost anxiety had affected the minds of herself and her friends respecting the present labour. I was, therefore, twice obliged to attend to the placenta, and endeavour to satisfy her mind, that although it was not come away, all was perfectly safe. I am accustomed to keep the baby up to its chin in hot water, if the vessel will admit of it; if not, I cover the upper part of the body with flannels kept continually hot and wet with the water. I support the head with my left hand, and compress the chest after each inflation of the lungs with my right hand, employing an attendant to hold the child's nose, if I find it necessary. In about ten minutes a very faint sob or slight attempt at inspiration took place, and shortly after this I found a feeble pulsation of the heart. The process was now persevered in with the pleasing assurance of success, and at the end of about twenty or five-and-twenty minutes there was sufficient respiration to admit of my service being discontinued. It was an hour or two after this before the child made any attempt to cry, and still longer before the hands and feet had a proper warm circulation. Of course I did not wait for these changes; but the placenta having been at last safely expelled, I went home much gratified with the happy termination of the case. The child is now perfectly well and healthy.

In concluding these remarks, I would beg leave to direct the especial attention of those who may do me the honour to peruse them, to a very interesting and important paper published, by Dr. Cape, in the Medical Gazette for October 7th, 1837, in which he adduces instances of artificial respiration successfully applied, not only in cases of suspended respiration at birth, but also in the state of asphyxia sometimes attending convulsive fits. I have never met with cases in point, but I entirely concur in Dr. Cape's observations respecting them, and am of opinion that artificial respiration may become more extensively useful than it has hitherto been.

I have the honour to be, sir,
Your obedient servant,
H. Terry,
Surgeon to the Northampton General Infirmary.

Northampton, July 16, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

Tea; its Effects, Medicinal and Moral. By G. G. Sigmond, M.D. &c. London, 1839. Small 8vo. pp. 144.

The author of this little work is Professor of Materia Medica to the Medico-Botanical Society; and having delivered an introductory address upon tea at the opening of this year's session, he has compressed it into a popular treatise for the general reader. Nevertheless, we fear it is not likely to become popular, nor to supply the obvious blank which exists on this subject in medical literature; for the greater part of the book is devoted to the botanical and commercial history of tea, and a very insufficient space is consequently left for the discussion of its medicinal and moral effects.

The treatise, small as it is, is not very well arranged: surely the following lists of substitutes for tea ought to have been in juxta-position, not separated by an interval of eighteen pages:—

"As a simple and salutary diluent, no fluid is to be compared with the infusion of tea; although milk, milk porridge, gruel, broth, cocoa, coffee, infusion of sage, of balm, of juniper berries, of aniseed, of fennel, of hay, of coriander, of betony, of rosemary, of ginger, and even sugar and water, have all had their advocates, and have all been tried, they none of them form so grateful and useful a diluent with the ordinary meal, and they none of them are so uniformly agreeable; and though there may be peculiar idiosyncrasies, in which it may not altogether agree, yet it is innocent beyond all other drinks with which we are acquainted."—P. 112.

"That tea is the most agreeable and the most salutary diluent that has yet been introduced into Europe, would ap-

pear from the general improvement that has followed upon its use; and although many plants have been used as substitutes, none have so long maintained their character. The common sage, *Salvia officinalis*, the wild marjoram, *Origanum vulgare*, the Arctic bramble, *Rubus Arcticus*, the sloe-tree, *Prunus spinosa*, the goat-weed, *Capraria biflora*, Mexican goose-foot, *Chenopodium ambrosioides*, common speedwell, *Veronica officinalis*, wild germander, *Veronica Chamædrys*, have been tried; but the most sanguine commenders of these herbs have soon become tired, and have abandoned their use."—P. 130.

Is tea a real good, or merely the least of evils? This is one of the most important questions in diet, but one to which we find no satisfactory answer in Dr. Sigmond's essay. We readily acknowledge that the constant drinking of tea is far better, that is to say, far less bad, than the constant ingurgitation of wine and spirits; that it is also better than the liberal use of coffee and chocolate, which are too stimulating for ordinary drink: our doubt is, whether it is good absolutely as well as relatively. After teaching certain comfortable persons how much wine they may drink at and after dinner, our author says—

"About two hours after this a diluent may be advantageously taken; then it is that tea imparts a grateful glow of warmth, assists the stomach to unload itself from the digested food, which it gently propels. Soon after it has been taken, the languor which is usually attendant upon a full meal disappears, the propensity to slumber so apt to prevail is dissipated, the body feels light, and the mind capable of either gathering fresh information, or of indulging in the recreation which society affords."—P. 109.

If tea is beneficial here, it seems to be as a medicine to a gorged feeder—a substitute for temperance, a good cook, or a cheerful companion *; but is it advantageous to the bulk of our population, who have no wine and no loaded stomachs, yet drink more of the diluent than their well-fed superiors? What, too, is to be said of the numerous persons of the middle class, who are frequently heard to say, that they cannot do without their tea—that their tea is the best meal they have, &c.; is this passion for the infusion the cause, or only the effect of their weak lackadaisical state? We do not propose these questions as if by asking we answered them, but with real doubt. At present we take leave of the subject; but we must state, in justice to Dr. Sigmond, that the historical part of the work is far better than the one from which we have made our quotations.

On the Enlisting, Discharging, and Pensioning of Soldiers; with the Official Documents on these branches of Military Duty. By Henry Marshall, F.R.S.E., Deputy Inspector-General of Army Hospitals. Second edition. Edinburgh and London. 1839. 8vo. Pp. 259.

This is a capital work: eminently useful to army surgeons, to whom it ought to be a vade-mecum, and well worth the perusal of civil practitioners. For, in the first place, *malingering*, or shamming sickness, though brought to the greatest perfection in the army, is an accomplishment by no means uncultivated in schools and colleges, hospitals and dispensaries; and, in the second place, so many patients, from negligence or other motives, conceal half their infirmities, that it is desirable for every one to have the *coup-d'œil* of a military practitioner, and detect much more than the sick man confesses.

The first part of the work is on the enlisting of soldiers, the second on discharging, and the third on pension-

* We have often thought that one might apply to medicine what Napoleon said of war, "That the *morale* was to the *physique* as three to one." In the matter of digestion, especially, this holds good; let the mind be at ease, and the cook may do her worst. There is a Spanish proverb which says, "Tell me whom you keep company with, and I will tell you who you are." We would propose as a supplement, "Tell me with whom you dine, and I will tell you how you digest." Cheerfulness at meals, quoth Bacon, is a great promoter of long life; but how on earth is a man to be cheerful if his fellow-diners are sad? Some faces make good digestion certain; while others, more potent than Medusa's head, would turn the best cooked meat into stone. Suppose, for instance—to take extreme cases—you sat down day after day opposite to Tetricus, with discontented looks and short answers; Ude or Beauvilliers might toil in vain, for the choicest morsels could hardly be swallowed. Again, imagine the fellow-diner was Callipareia, with a smile such as eye has not seen, and a voice such as ear hath not heard; does not the youngest student know that cucumber would become digestible, and that dry bread (as in the Tale of a Tub) would be converted into partridge? Let the writers on diet look to this.

ing them. At page 10, Mr. Marshall says—

"The army is unpopular, and will ever continue to be so in this country, not in consequence of the severity of the punishments of military service, but on account of the necessary restraints upon the habits of the man who becomes a soldier, and the severity of the service and duties which he has to perform, namely, service for life at moderate pay, in unwholesome climates, at great distances, and incurring enormous risk to health and life."

We think this very doubtful, though backed by the authority of the Duke of Wellington. Of the recruits inspected at the Dublin Depôt, 8269 out of 12,835 were husbandmen and labourers, and these, at least, would not be likely to complain of their pay or style of living as soldiers; and it is clear, from what our author says elsewhere, that a great part of the disgust to the service felt by those who are actually in it, arises from its unlimited duration. It is obvious that this disgust cannot be concealed from the mass of the population, and therefore must operate as a strong check upon enlistment. The following anecdote illustrates this topic:—

"In countries where the armies are recruited by conscription, the mutilation of young men who may be enrolled for military service is not unfrequent; but, as far as I know, the following circumstance, which marks the popular dislike to the army, is unique in this country:—

'A dissolute son of a widow, at Longashford, some time since enlisted as a soldier, to the great grief of his parent, who with much difficulty succeeded in obtaining his release. He has since frequently threatened to take the same step, with the view of obtaining from his mother any object he desired. On Monday he came home intoxicated, and his mother, believing that he intended to carry his threat into execution, had recourse to the following extraordinary expedient for its prevention. With the assistance of her daughter, while her son was asleep, she bandaged his wrist to prevent hæmorrhage, and the daughter having placed the fore-finger of his right hand on a block, the mother actually chopped it off with a hatchet, a little beyond the first joint.'"—*United Service Gazette*, 12th Nov. 1837.

And, then, the flogging! How can we doubt that thousands and tens of thousands of fine young men are prevented from enlisting, by the dread of their errors being punished by long-drawn torture, arrested within a few lashes of death by the nice tact of the presiding surgeon? "The ulceration which follows flogging," says our author, "sometimes leaves extensive unsound cicatrices, which prevent a man from carrying his knapsack, and consequently he becomes permanently disabled and unfit for the service."—P. 37.

Just imagine a discharged soldier with "extensive unsound cicatrices," going back to his native village, like a heretic escaped from the Inquisition, and telling the story of his torments. If the villagers have some small remains of common sense, the back of their old friend will be equal to a volume of practical discourses against soldiering, and prevent any of the inhabitants of Barleythorpe from carrying *their* knapsacks.

It is often disputed whether soldiers, who are unable to bear the whole of their punishment at once, are brought out, after recovering from the first infliction, to endure a second; Mr. Marshall, whose authority must be first-rate on the subject, says—

"The custom of inflicting second punishment prevailed more or less till within a few years; but it has been gradually falling into desuetude since Mr. Manners Sutton stated in the House of Commons, in February, 1813, his opinion of its impropriety and injustice."—P. 130.

Impropriety is rather a tender word for such a monstrous practice, whether it belongs to Mr. Manners Sutton, or to our author; we must confess that the latter seems on this point to have a little of the old school in him, and talks, without a blush, of punishments of 500, 700, and 1000 lashes!

These enormous punishments—these relics of a darker age—have, indeed, been clipped and pared down of late years, but have by no means been brought within reasonable bounds; for though flogging may in itself be preferred among a choice of evils, yet flogging till sinking nature can bear no more is unnecessary, abominable, and unrecommended by the practice of any other civilized nation. It is gratifying to see, by the table at p. 252, that the

number of punishments inflicted has also diminished most considerably. Thus, in 1825, one man out of 59 was flogged in the British army; whereas, in 1833, the proportion was 1 in 111, and the same in 1834.

Perhaps the most singular fact in military statistics is the large number of suicides among soldiers. Only look at a troop of cavalry defiling through the streets of London, with all "the pomp and circumstance of glorious war," the admired of all the women, the envied of all the men; how gay and gallant their appearance! With what manly ease they sit their horses, and how superior seems their condition to that of us poor creatures, who creep along as well as we can, that is to say, not very well! Yet of these stout cavaliers, who ruffle it so bravely among your ordinary townsmen, among every twenty who die, one dies by his own hand! And this, of course, does not comprehend the attempted suicides. (Marshall, p. 141.) What an unutterable amount of despair must be concealed beneath those handsome uniforms! Truly has it been said, *Fronti nulla fides*.

The following very curious passages are the only selections we can afford to make from the sections on Feigned Diseases:—

"*Deformity of the spine.*—Of all disabilities which disqualify men for military service, personal deformity would appear to be the most unlikely to be feigned, as the imposture is so easily detected. Malformation has, however, been frequently simulated by recruits, and in some instances with success.

"E. Brady, a recruit for the 58th regiment, was approved by Mr. M'Leod, lately surgeon to the 42d regiment, and acting district surgeon in Dublin, in August 1819. He was forwarded to the army depôt, Isle of Wight, where he feigned malformation so effectually, that a board of medical officers, which was assembled on the 4th September, to report on his case, found that he was unfit for the service, on account 'of deformity of the spine and chest—strong inclination of the body to the right side—defective motion of the right arm and leg—pain on pressure upon the spinous processes of several of the dorsal vertebræ.' In compliance with the finding of the board he was discharged; he returned to Dublin, where he was minutely examined on the 22d September, by Dr. Peile, Deputy-Inspector of Hospitals, the late Dr. Thomas Brown, and the late Mr. Todd, professor of anatomy, who found his spine and chest well formed, no inclination of the body to the right side, or defect in the power of motion of the right arm or leg; and that he did not complain of pain on pressure upon the spinous processes of the dorsal vertebræ. But, previously to the latter examination, the object for which deformity had been simulated, was obtained. In January 1822, Brady enlisted for the 89th regiment, and was approved at Newry, by staff-surgeon R. J. Brown. The above case is by no means a solitary instance of success in this variety of imposition. T. Darby, a recruit for the 59th regiment, was approved by Dr. Thomas Brown during the autumn of 1821, and transferred to the depôt of the corps in the Isle of Wight. The nature of the farce he acted there may be inferred from the subjoined copy of a report made on his case, by a board of medical officers:—'The board have minutely examined recruit Timothy Darby, 59th regiment, and find a curvature of the upper part of the spine, with deformity of the chest and shoulders, the left shoulder nearly two inches higher than the right, and the body slightly bent forward, with the head inclining to the left side. He has been in hospital upwards of two months, under observation and treatment; large caustic issues have been made on each side of the spine, and the cough and pain he complained of on admission are removed; the board are of opinion, that the deformity is incurable, and recommend his removal from the service.' This report is dated 10th December, and Darby was discharged on the 13th of the same month, 'in consequence (as his discharge stated) of a deformity in the spine and chest.' Dr. Brown having been furnished with a copy of the above report very naturally inferred that there must be some fraud in the business, as it was morally impossible that he would have approved of so deformed an object as appeared to be described by the board. Darby was intercepted on his return home through Dublin; and on the 21st January, 1822, he was inspected by three eminent surgeons, Messrs. Colles, Todd, and Cusack, an extract from whose report I shall subjoin:—'We have this day minutely inspected Timothy Darby, and we are of opinion

that he does not labour under any disease or deformity of the spine or chest; on the contrary, he appears to be remarkably well formed.' On the 2d of November, 1825, Darby enlisted for the 87th regiment, but apparently presuming that he would be rejected, on account of the cicatrices of two large issues on his back, he refused to accept of a smaller sum than five shillings as enlistment money from the recruiting serjeant. He was brought to me for inspection, and I found him fit for the service, being perfectly aware at the time that Darby had been found unfit by a medical board. He was soon after transferred to the depôt of the 87th regiment, and finally approved."—P.134.

"Dr. Fallot relates an account of a Swiss soldier who feigned St. Vitus's dance. The symptoms were a little exaggerated, but in general they were exceedingly well imitated. The man appeared to suffer much by the complaint, and anxiously begged for medicines to relieve him. He was about to be discharged, but Dr. Fallot's suspicions being excited, the man was then requested to give a minute account of his feelings, which, aided by the promptings of the doctor, were obviously very absurd. The fraud was by this means discovered. Although this man was quite an adept in imitating the symptoms of the disease, he could not give any thing like a satisfactory history of the progress of the affection. Dr. Fallot afterwards discovered that the imposter had been tutored in the art of imitating St. Vitus's dance, by a relation, who was a medical practitioner. The man deserted from the hospital when he found that his imposture was discovered."—P. 160.

These cases are remarkably instructive; but we cannot quote them without cautioning our younger readers not to overlook real diseases in their zeal to detect feigned ones—a painful and unjust mistake which has often been made. Thus Mr. Marshall says—

"Other instances might be quoted where mental alienation was mistaken for feigned disease. From the report of a coroner's inquest held on the body of Joseph Godfrey, it appears that he belonged to the 83d regiment, and served with that corps at the Cape of Good Hope eleven years. During this period he evinced symptoms of derangement on five different occasions; was five times tried by a court-martial for pretending insanity with a view to his discharge; and was, on each occasion, sentenced to receive corporal punishment, which was uniformly inflicted. Maniacal paroxysms continued to recur after he was discharged, and during one of the accessions he committed suicide, by drinking a quantity of sulphuric acid."—(*Times Newspaper*, 22d February, 1826.)—P. 162.

Two other examples are given by Beck; in one a soldier "was treated as a malingerer, and sent to drill, until a lumbar abscess appeared, of which he died;" in the other, a patient complaining of pain along the whole outside of the thigh was dismissed from the Edinburgh Infirmary as an impostor; in about a fortnight afterwards, he died of apoplexy, and on inspection, the cartilage covering the head of the femur was partially destroyed, and there were two ounces of pus in the cavity of the joint. — (*Beck's Med. Jurisprudence*, 5th edit., p. 33.)

Again, we recommend Mr. Marshall's excellent treatise to both classes of our readers, the civil as well as the military.

MEDICAL GAZETTE.

Saturday, July 27, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

SUCCESSFUL PHYSICIANS AND SURGEONS.

In our article on Successful Physicians (July 13th), we found fault with the enormous and indiscriminating praise which the author of "Physic and Physicians" has lavished upon a great number of our London practitioners. Almost all the physicians, indeed, whom he calls eminent, in fact, are so, though there are some two or three who, if "blush lives at them," as Miss Jane Okey phrases it, must colour up to the ears at seeing themselves in the catalogue. But though the majority are

really eminent,—though they emerge from the crowd, either as scientific thinkers, or practical physicians,—still the overwrought panegyric with which the author bespatters them, does not produce the effect which he intends; but instead of making them all first-rate stars, reduces them to a sort of milky way, where individuality is lost in one general blaze. This, certainly, is not the style of those whose praise is fame; they do not lose individuals in classes, unless when there is nothing to characterize them singly, and when we read of *fortemque Gyan*, *fortemque Cloanthum*, we feel assured that though stout warriors, they were not able generals.

It must be confessed, moreover, that as in a picture the lights require to be set off by shadows, so the varied merits of the sitters for medical portraits, even if drawn by a delicate hand, would appear false and unnatural unless contrasted with their defects. Sketches of this kind of the members of the bar were executed twenty years ago, and most admirably too, by a writer who assumed the signature of "Amicus Curiæ." He was well acquainted with the essential rules we have laid down, and knew how to praise with discernment. When he extolled, for instance, the powers of Scarlett, Brougham, or Denman, as advocates, he did not cry them up as black-letter lawyers; unlike the author of "Physic and Physicians," who constantly throws away the epithet *scientific*, as if science were common as a diploma. Yet we must candidly allow, that in taking medical likenesses, the painter labours under a disadvantage not shared by the legal limner. The barrister is a public man; and if his delivery is confused or hesitating, his law bad, or his cross-examinations vapid, the fact is open to all who attend the courts, and may be published without any breach of faith. Whereas, if it were said of one physician that his manner was not really courtly, but laboriously polite; of another, that he had a cabbed, ungenial air; of a third, that he too much resembled the president of an eccentric club; they might complain, and with justice, that they had been watched by the malignant eye of some caricaturist in their hours of private confidence and social relaxation. Hence we must not only excuse, but praise, the author for the absence of all those nicer touches which acquaintance with the object of the sketch can alone give.

When he talks, however, of his "stern sense of duty," says that "medical men are, in every sense of the word, public property;" and asserts, that "it is for the advantage of society that the physician's and surgeon's character and intrinsic worth should be properly weighed, in order that the public may be enabled to make a selection of those in whom the most implicit confidence may be placed," we certainly expected something more than a dull stream of undiluted praise. Such promises made us fear that the critical scourge was about to be wielded with terrific severity. What will become of Dr. Alexander Turnbull, we ask? Assuredly the author's knout will reduce him a state of insensibility for veratria alone, and his friends will have to carry him away long before "a stern sense of duty" has got through the alkaloids. There will be no time to touch him up for the ear. Instead of this, to our unspeakable amazement, we find that "Dr. Alexander Turnbull is a physician who has contributed much to the alleviation of human suffering."

Even in these days of hurried writing, when authors scribble while the printer's devil is waiting in the passage for "copy," we are somewhat struck with finding Dr. Turnbull praised for the "absence of all mystery," in the same

page where an apology is offered for his making a mystery of the remedies he uses for the cure of deafness.

In his account of Dr. Elliotson *, the author says that he, "in a great measure, owes his reputation and present position in the medical world, to the publication of his lectures in the Lancet." And to this he immediately adds, "Do not let it be supposed that we wish, for one moment, to detract from the intrinsic abilities of Dr. Elliotson, or wish the public to believe, that, without the co-operation of Mr. Wakley's medical journal, the Doctor could not have risen to his present rank in the medical profession. This is far from our intention. We are convinced, from our knowledge of the talents and character of Dr. Elliotson, that he would have attained high eminence as a practical physician, had no such publication as the Lancet been in existence." This seems self-contradictory in form, but perhaps is not so in substance. The author probably means to say, that although the publication of a physician's lectures must hasten the diffusion of his fame, still a man whose lectures are worth publishing, must take rank in his profession, even if the lectures are not printed. If he means this, we agree with him: and we can readily understand, not only the effect which such a diffusion of a physician's opinions must have, but the foregone conclusion which it denotes;—for it is scarcely conceivable that one editor, far less two (for the lectures also appeared in this journal), should persist, month after month, and year after year, in publishing the effusions of mere mediocrity. Half a dozen lectures on some small subject may be admissible, though of only average merit; but a series of sixty flat discourses would be intolerable. Hence we may conclude, and the history of medical journals confirms our deduction, that when a periodical gives an entire series of lectures on any subject, the author is a distinguished teacher. But granting that a man has delivered a satisfactory course, and can keep together a class of a hundred or a hundred and fifty pupils, does it follow that he must be a successful physician? Almost to a certainty; at least we do not recollect any instances to the contrary. The same qualities which draw pupils, and make lectures worthy of the press, will form the popular practitioner. In the first place, the good lecturer, instead of having to hunt for materials to fill up an hour, has only to select from his stores what is most apt and most instructive. As he has had a large hospital practice, and has known how to profit by it, his lectures do not consist of mere compilation from other writers (for these, however ingeniously dovetailed, will want force), but of the results of his own observation, and the experience of former physicians, so fused into one harmonious whole, that a break can seldom be perceived. Of course, on some occasions, such a teacher will dissent from established opinions; but if this is too often done, lectures will not be very instructive, unless we suppose their author to be a Sydenham or a Boerhaave. One thing is quite certain: a lecturer of the best kind will give due prominence to essential points, unlike those dullards who are ignorant of the *perspective* of science, and attempt to bring every object into the fore-ground. It is unnecessary to say that the lecturer must be a man of talent and industry, and thoroughly in earnest in his profession. No one can mistake him

* He calls him Thomas, though his real name is John; but literal accuracy is not the author's strong point. Thus he calls Dr. Copland, Copeland; changes Pereira into Periera; A. T. Thomson into A. T. Thompson; and Marcet into Marat (p. 244). Among errors of another kind, we may mention his enlisting Dr. Alexander Marcet among living physicians, though he must have been dead a good dozen of years; and devoting more than nine pages to Faraday, supposing him to be a physician.

for a mere physiologist or botanist, or dry historian of disease; he makes every thing subordinate to the practice of physic. Every one does with pleasure that which he does well; and he is therefore ready in teaching physic by short hints, as well as formal lectures, so that he must be good-humoured and facile of access. Such are the chief qualifications of an eminent lecturer; if to these we were to add great fluency and elegance of speech, enabling him to lecture with ease from the most scanty notes, he would be a first-rate one. At all events, the talent, industry, skill in arranging materials, tact in bringing out prominent points, and facility of access, which constitute the able lecturer, will make up a successful physician, even if no medical journals should be in existence.

It is almost incredible that any one should talk about Sir Charles Bell for two mortal pages, and yet not mention a word about the famous pamphlet, printed for private distribution in 1812, and the double roots of the nerves; yet so it is; no hint is given that Sir Charles Bell has made a discovery which is the subject of discussion wherever physiology is studied. He asserts that Sir C. Bell practised midwifery for two years—an assertion contradicted by Sir Charles in one of his clinical lectures some ten years ago.

Sir Anthony Carlisle is highly praised, like every body else. On one occasion he fell into a discourse on the importance of attending to trifles, in which he is represented by our mistaken author to have adduced as an example, the story of a surgeon who went some distance to perform an amputation, but forgot to take a saw with him. We should have imagined a saw at an amputation to be any thing but a trifle.

Mr. Liston is specially honoured, for nearly eight pages are consecrated to a discussion of his merits and peculiarities. Who loves me loves my dog; so that the author naturally asks, "Who has not seen Liston's favourite cat, Tom?" We are ashamed to own that we have not, though it would seem that not to know Tom might almost argue oneself unknown!

On the whole, it must be granted that the author of "Physic and Physicians" has executed the delicate task of criticizing living practitioners harmlessly, though often with extreme inaccuracy. This, however, will very likely affect the popularity of the work out of the profession but little, for we observe it is praised to the very echo by those irrefragable arbiters in literature—the Sunday newspapers.

METROPOLITAN HOSPITALS.

Various changes have lately taken place in the medical department of some of the London hospitals.

At Charing Cross Hospital, Mr. Hancock has been elected assistant-surgeon. This, we believe, was a new appointment.

At London Hospital, Dr. Little has been elected assistant-physician, in the place of Dr. Davies, deceased.

At St. George's, Dr. Chambers has retired, after 23 years of active and honourable service. Dr. Hope has succeeded as physician; and Dr. Nairne has been elected to the office of assistant-physician, vacated by Dr. Hope.

At North London Hospital, Dr. C. J. B. Williams is to succeed Dr. Elliotson.

UNIVERSITY COLLEGE.

The Professorship in Medicine, recently vacant, has been keenly contested;—Dr. M. Hall, Dr. Craigie, and several others, well-known physicians, being among the candidates. The choice has fallen upon Dr. C. J. B. Williams, whose valuable lectures on the Chest appeared in our volumes of last year.

LECTURES ON THE EYE.

We beg to direct attention to Velpeau's lectures on the eye, now in course of publication in this journal. They will be found to contain views and opinions considerably different from those which prevail in the English and German schools.

LONDON UNIVERSITY.

We subjoin the papers for the second examination, which complete the set :—

BACHELOR OF MEDICINE. 1839.

SECOND EXAMINATION.

PASS EXAMINATION.

Monday, July 15.—Morning 10 to 1.

PHYSIOLOGY AND COMPARATIVE ANATOMY.

Examiner, Dr. Roget.

1. Enumerate the component parts of the blood; specify their physical and chemical properties, and describe and explain the phenomena of the coagulation of the blood.

2. Describe the course of the blood in its circulation; state the proofs that such is its course, and give a general account of the powers by which its motion is maintained.

3. Describe the general plans of the organs of circulation in the four classes of vertebrate animals, and also in the mollusca, with reference more especially to their different modes of respiration, and to differences in their temperature.

4. What effects ensue from the extirpation of the kidneys?

5. Describe the forms, and explain the office of the air-bladder of fishes.

6. State the purposes which are answered by the ganglia and the plexuses of nerves.

7. Describe and explain the effects of a section of the pneumogastric nerve.

8. Describe the characteristic forms of the nervous system in each of the four great divisions of the animal kingdom, viz. vertebrate, molluscous, articulated, and radiated animals.

9. Describe the mode in which images of external objects are formed in the human eye; and also the provisions in that organ for different focal adjustments, and for correcting the spherical and chromatic aberrations.

10. Enumerate the anatomical differences between the eye of the ox and that of man; and state generally the peculiarities of structure in the eyes of birds and of fishes.

Monday, July 15.—Afternoon, 3 o'clock.

CLASSICAL EXAMINATION.

Examiners, Dr. Billing and Dr. Tweedie.

Translate the following passages into English:—

Celsus de Re Medica, lib. ii. cap. 4.

Celsus de Re Medica, lib. iii. cap. 20.

Celsus de Re Medica, lib. iv. cap. 20, sect. 2.

Tuesday Morning, July 16, from 10 to 1.

SURGERY.

Examiners, Sir Stephen Hammick and Mr. Bacot.

1. Define common acute inflammation, its characteristic symptoms and causes.

2. State the various terminations of inflammation, with the treatment of each respectively.

3. How do you class wounds arising from external violence? Describe their nature, symptoms and treatment.

4. What is the process by which union is accomplished in a simple fracture of a cylindrical bone?

5. Give the different dislocations of the shoulder-joint, their symptoms, and mode of reduction.

6. What is hydrocele—its palliative and radical treatment?

7. Enumerate the different situations and names of herniæ, with the various conditions in which they may be found.

8. Describe the operation for popliteal aneurism.

Tuesday, July 16.—Afternoon, 3 to 6.

MEDICINE.

Examiners, Dr. Billing and Dr. Tweedie.

1. Describe the general symptoms, anatomical characters, and physical signs of pleurisy. Give an outline of the treatment.

2. What are the different forms of scarlet fever? Specify the symptoms which characterize each variety, and its appropriate treatment.

3. What are the principal lesions which induce ascites? How is it distinguished from pregnancy, ovarian tumors, or tympanites?

4. What are the symptoms of laryngitis? Describe its anatomical characters, diagnosis, and treatment.

5. Give the anatomical characters of cerebral hemorrhage, and the changes which subsequently take place in the coagulum and in the nervous tissue.

6. Detail the symptoms, morbid appearances, and treatment of dysentery. Mention particularly the circumstances which determine the propriety of bloodletting, and those which contra-indicate its employment.

7. What are the symptoms of nephralgia calculosa? State its diagnostic signs, and the curative and prophylactic measures to be employed in the treatment.

8. Detail the measures to be adopted when an individual is seized with cerebral apoplexy.

Wednesday, July 17.—Morning, 10 to 1.

MIDWIFERY AND THE DISEASES PECULIAR TO WOMEN AND INFANTS.

Examiner, Dr. Locock.

1. What are the signs of pregnancy? Which are doubtful and which are decisive?
2. What are the changes which take place in the fœtus immediately after the first act of respiration?
3. What are the circumstances under which it may be desirable to bring on premature labour, and what are the various modes of effecting it?
4. What are the nature and causes of hæmorrhage before parturition, and the modes of treating it?
5. With what may polypus of the uterus be confounded, and what is the diagnosis?
6. What are the signs of the death of the fœtus?
7. What is the order of the first dentition?
8. What are the symptoms of laryngismus stridulus—the causes—and the treatment?

Wednesday, July 17.—Afternoon, 3 to 6.

FORENSIC MEDICINE.

Examiners, Prof. Daniell, Dr. Locock, and Mr. Pereira.

1. What are the symptoms and chemical proofs of poisoning with opium?
2. How are blood-stains on metal and linen to be distinguished from other stains?
3. What are the proofs that carbonic acid gas is a *positive* poison? What are the morbid appearances which it produces in the body?
4. What are the symptoms of arsenical poisoning? How may the presence of arsenious acid in organic mixtures be ascertained?
5. What condition of the ovary is a test of impregnation having formerly existed, and how much is such a test to be relied on?
6. Describe the signs of recent delivery,—those distinguishable during life—and those proved by dissection.
7. In suspected infanticide, what are the proofs that respiration has taken place, and how much are they to be depended upon?

REMOVAL OF A THORN

WHICH HAD BEEN FIVE YEARS IN THE EYE.

To the Editor of the Medical Gazette.

Sir,

Should the following case be deemed of sufficient interest for the perusers of your well-conducted and widely-diffused journal, an early insertion will confer an obligation on,

Your obedient servant,
Hugh Birt, M.R.C.S., &c.

Ashington, Storrington, Sussex,
July 16, 1839.

Solomon Stringer, ætat 16 years, the son of a small farmer in Westgrinstead, applied to me, June 2, 1839, in order to ascertain if I could inspire him with the prospect of regaining the vision of his right eye, which had been lost for the five preceding years.

However, the curiosity of the case being in its history, I will endeavour to subjoin it as follows:—My patient, with other boys of his own age, proceeded in the destruction of a wasp's brood, by "flogging out," as it is here named, and by so doing his eye was struck with one of the branches of the black thorn, used for the above purpose; and, as will hereafter appear, one of the spinæ entered the cornea and inflicted a penetrating wound, leaving its apex adhering to the capsule of the lens. However, this was not observed at the time by the surgeon then called in, Mr. Morgan, of Henfield, a highly respectable and intelligent practitioner: he treated the case as conjunctivitis only, I should imagine, and soon allayed its progress, telling the boy he would regain the use of the organ in a short time. Unfortunately, however, his predictions were not verified, and the patient, from that period, 1834, gradually became worse as to vision, until he completely lost it, about five months from the reception of the accident. I saw the case was a soft cataract, and determined to depress it. I invited Mr. Hurst, of Pulboro, and Mr. W. Barker, of Tarring, who kindly obeyed my call, and lent me their able assistance. After the application of the belladonna, and the dilatation of the pupil, we could observe a small black substance adhering to the inferior portion of the capsule, which proved to be the woody substance afore-mentioned. I now altered my intention, and immediately resolved to perform the operation of extraction, by which means I should afford an opportunity to the foreign body escaping. I operated by the lower section, but could not, unfortunately, discover the substance in question. However, six weeks have elapsed since the operation, and the case is going on favourably, without any prolapsus iridis, or any any other unpleasant symptoms. The organ is gradually resuming its tone, and doubtless the case will prove a fortunate one.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, July 23d, 1839.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week	Same time last year.
	£ s. d.	£ s. d.		s. d.			
Aloes, Barbadoes, D.P. c	12 0 0	to 40 0 0	B P. lb	0 2			
Hepatic (dry) BD..... c	5 0 0	14 0 0	F. lb	0 8		64,473	58,922
Cape, BD. c	2 0 0	2 15 0					
Anise, Oil of, German, D.P....lb	0 9 6	0 9 6	F. lb	1 4		——	133
E. I. .....lb	0 5 0	0 5 6	E. I.	1 4		912	525
Asafœtida, B.D. c	2 10 0	5 0 0	c	6 0		20	35
Balsam, Canada, D.P. .....lb	0 1 3	0 1 4	lb	0 1		8,331	5,092
Copaiba, BD.....lb	0 2 6	——	c	4 0		292	168
Peru, BD. .....lb	0 4 3	——	lb	1 0		508	1,798
Benzoin (best) BD..... c	25 0 0	50 0 0	c	4 0		80	62
Camphor, unrefined, BD..... c	10 10 0	——	c	1 0		288	321
Cantharides, D.P. .....lb	0 5 0	0 5 3	lb	1 0		8,991	9,179
Caraway, Oil of, D.P. .....lb	0 8 0	0 8 6	lb	4 0		355	521
Cascarilla or Eleutheria Bark, D.P.c.	3 10 0	——	lb	0 1		48	4,031
Cassia, Oil of, BD.....lb	0 7 6	——	lb	1 4		1,485	2,391
Castor Oil, East India, BD .....lb	0 0 6	0 0 11	c	1 3		3,551	3,385
West I. (bottle) D.P. 1½lb	——	——		——			
Castoreum, American .....lb	0 17 0	0 18 0					
D.P. Hudson's Bay .....lb	0 18 0	1 0 0	lb	0 6		467	782
Russian.....lb	none						
Catechu, BD. Pale c	1 2 6	——					
Dark	1 10 0	——	c	1 0		23,522	18,666
Cinchona Bark, Pale (Crown)....lb	0 2 0	0 3 6					
BD. Red .....lb	0 2 0	0 4 0	lb	0 1		31,737	74,909
Yellow .....lb	0 3 6	0 3 8					
Colocynth, Turkey .....lb	0 2 6	0 4 0	lb	0 2		5,604	5,773
D.P. Mogadore .....lb	0 1 0	——					
Calumba Root, BD. c	0 12 0	1 15 0	lb	0 2		7,262	17,939
Cubebs, BD. c	2 10 0	——	lb	0 6		26,498	14,841
Gamboge, BD. c	5 0 0	15 0 0	c	4 0		36	65
Gentian, D.P. c	1 6 0	1 8 0	c	4 0		355	286
Guaiacum, D.P.....lb	0 1 0	0 1 8	c	6 2		2	15
Gum Arabic, Turkey, fine, D.P... c	11 0 0	12 0 0					
Do. seconds, D.P. ... c	8 0 0	——					
Barbary, brown, BD. c	2 2 0	——	c	6 0		4,819	3,355
Do. white, D.P..... c	4 10 0	——					
E. I. fine yellow, BD. c	2 5 0	2 14 0					
Do. dark brown, B.D. c	1 15 0	2 5 0	c	6 0		3,770	3,025
—— Senegal garblings, D.P. c	0 3 6	——	c	6 0		12,761	9,355
—— Tragacanth, D.P. c	0 8 0	0 12 0	c	6 0		62	264
Iceland Moss (Lichen), D.P. ....lb	0 0 2½	0 0 3	lb	0 1		15,933	5,179
Ipecacuanha Root, B.D. .....lb	0 1 9	0 2 0	lb	1 0		3,859	9,923
Jalap, BD. .....lb	0 2 0	——	lb	0 6		20,412	22,468
Manna, flaky, BD. .....lb	0 3 0	0 3 3	lb	0 3		6,949	4,356
Sicilian, BD. .....lb	0 1 7	——					
Musk, China, BD. .....oz	1 0 0	1 8 0	oz	6 0		1,155	1,015
Myrrh, East India, BD. c	5 0 0	14 0 0	c	6 0		129	106
Turkey, BD..... c	2 0 0	11 10 0					
Nux Vomica, BD.....lb	0 8 0	0 9 0	lb	2 6		225	740
Opium, Turkey, BD. .....lb	0 15 0	——	lb	1 0		18,898	15,991
Peppermint, Oil of, F. BD.....lb	0 17 0	——	lb	4 0		1,221	528
Quicksilver, BD. .....lb	0 3 10	——	lb	0 1		158,104	188,265
Rhubarb, East India, BD.....lb	0 2 6	0 4 0	lb	1 0		18,836	19,925
Dutch, trimmed, D.P. lb	0 3 6	0 5 0	F. lb	1 0		1,599	3,704
Russian, BD. .....lb	0 8 3	——					
Saffron, French, BD. .....lb	0 18 0	——	lb	1 0		2,150	3,051
Spanish .....lb	0 18 0	0 18 6					
Sarsaparilla, Honduras, BD.....lb	0 1 0	0 1 9	lb	0 6		67,880	68,300
Lisbon, BD. .....lb	0 2 0	——					
Scammony, Smyrna, D.P.....lb	——	——	lb	2 6		5,316	4,948
Aleppo .....lb	0 18 0	1 0 0					
Senna, East India, BD. .....lb	0 0 3	0 0 4	E.I. lb	0 6		72,753	44,363
Alexandria, D.P.....lb	0 1 9	0 1 10					
Smyrna, D.P. .....lb	0 1 0	0 1 3	Other sorts	0 6		46,238	39,075
Tripoli, D.P. .....lb	0 1 0	0 1 3					

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

INFLUENCE OF THE SYMPATHETIC NERVES ON POISONING.

To the Editor of the Medical Gazette.

SIR,

HAVING made some experiments on a subject which has excited considerable interest within the last few years—the physiological action of poisons—I am anxious to direct your attention to a point, as far as I am aware, hitherto unnoticed.

After making a wound on the inside of the thigh of a rabbit, I applied to it six drops of a solution of hydrocyanic acid. The animal was dead in four minutes. After some unsuccessful attempts, I succeeded in dividing both sympathetic nerves in the lumbar region of another rabbit, much about the same size and age. To a similar wound on the thigh, I then applied the same quantity of hydrocyanic acid. No effect appeared to be produced for nearly ten minutes, when, some slight convulsions coming on, I repeated the application, but it was not till sixteen minutes from the time I applied the first quantity that the animal was dead.

A short time since I made a communication to Dr. Christison on this subject, thinking that if, by future inquiries, it could be shewn that poisons exert their influence through the medium of the sympathetic nerves, it would explain many things connected with their physiological action at present very obscure. For example, their non-action when applied to cut surfaces of the brain, spinal cord, and its nerves; also when a poisoned limb is connected with the body by means of the spinal nerves alone, and the varying intensity of their action with the texture to which they are applied; for there can be little doubt that the blood-vessels and pulmonary cells require and receive a larger supply of ganglionic nerves than other textures.

The learned Professor has very politely answered my letter, stating that "he cannot find that any thing has hitherto been done of the least consequence towards ascertaining what part is performed by the nerves of the sympathetic system in the action of poisons," and suggesting, "to repeat the experiment several times with the same poison in larger doses, and in different animals; and afterwards with other poisons, among which the most interesting would be strychnia, conia, nicotianine, or the empyreumatic oil of tobacco, and any other very powerful poisons which produce a characteristic set of symptoms in acting on the nervous system."

Now, sir, I have not time to pursue a subject, however curious and interesting, which would require so many experiments to prove what Abercrombie calls "the universality of the fact." I have therefore wished to direct attention to the subject by means of your valuable journal; and remain, sir,

Yours very respectfully,
THOMAS J. WELLS.

Bishop Street, Dublin,
July 15, 1839.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, July 18, 1839.

Henry Bisshopp, Arundel, Sussex.—Frederic Nunn Fitch, Hedingham, Essex.—George Willson Pretty, Wingfield, Suffolk.—Alfred Collinson, Launceston.—Wm. Urban Buce.—Robert Edwards, Shrewsbury.—Edward Gardner, Dursley.—Henry Leopold Nazer.—Gustavus King Dickenson.

July 25, 1859.

James Lindsay Lowry, Shirley, Southampton.—Wm. Lambton, Paradise Row, Rotherhithe.—Geo. Hogarth Makins, Kensington.—Emanuel May, Winkfield, Berks.—Samuel Hope Wraith, Blackburn, Lancaster.—Wm. Oldacres, Gonalston, Notts.—Leonard Aust. Lawrance.—St. John W——, Louth, Lincolnsire.—Geo. Frederick Bloxome, Eccleston Street, Eaton Square.—Richard Barker Hatfield, Great Gidding, Hants.—Thomas Cocks, Hatfield Broad Oak, Essex.—Wm. Lanham Thomas, Horsham, Sussex.—Wm. Yeoman Sheppard, Kingsdown, Bristol.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *July* 23, 1839.

Age and Debility	17	Heart, diseased	2
Apoplexy	3	Hernia	1
Childbirth	1	Hooping Cough	4
Consumption	43	Inflammation	12
Constipation of the Bowels	1	Bowels & Stomach	2
Convulsions	25	Brain	2
Croup	1	Lungs and Pleura	4
Dentition	2	Liver, diseased	1
Dropsy	8	Measles	12
Dropsy in the Brain	3	Rheumatism	1
Erysipelas	2	Scrofula	1
Fever	16	Small-pox	1
Fever, Scarlet	12	Unknown Causes	41
Fever, Typhus	1	Casualties	3

Increase of Burials, as compared with the preceding week . . . 68

NOTICE.

The delivery of the MEDICAL GAZETTE in LIVERPOOL, will hereafter take place on Saturday afternoon, by Mr. Ed. Willmer, of the *Express* newspaper-office.

We regret that we cannot give insertion to Mr. Y——'s letter.

ERRATA.—Last No. p. 616, *note*, for "Mann," read "Manuscript."—P. 618, col. 2, line 43, for "which.... circulation," read "which lose their vitality: for a little time after respiration has ceased the circulation," &c.—L. 53, for "mark," read "spark."

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, AUGUST 3, 1839.

LECTURES ON THE CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT OF CALCULUS, AND THE VARIOUS DISORDERS OF THE URINARY SYSTEM.

By Dr. Venables.

Lithic acid.—When we have the symptoms of stone in the bladder, or that its presence has been ascertained by sounding, we must endeavour to determine the species of calculus. Calculi in the bladder frequently become so smooth, from the action of the urine, that they produce little or no inconvenience. This is more particularly the case with the lithic acid, and instances are on record of large lithic calculi having been found in the bladder after death, which during life had not even been suspected. Here are several lithic calculi which were found, as I have been informed, in the bladder of a wheelwright, after his death, although, during his life, he betrayed no other evidence than occasionally a little irritation when voiding his urine.

The urine is, in these cases, almost always of the natural colour and appearance, but deeper. This is owing, perhaps, to the greater concentration of the urine, the specific gravity of which so exceeds that of health, that it amounts to 1·020 or 1·025. Generally speaking, too, it deposits crystallized sediments when it has become cold. When the pain and irritation are much increased, these sediments are also increased, and frequently at such times there is a great superabundance of mucus, and very often the amorphous sediments are also observed. When the calculus, however, consists of lithic acid, generally speaking the quantity of mucus is not very great, as this species does not cause the secretion of so much mucus as some of the others. Should the urine be turbid when first passed, it generally becomes transparent after standing some time. The addition of an acid will, in many cases, cause the precipitation of lithic acid in the crystallized form, especially if the diathesis be actively in operation; though, in general, the acid is in a great measure precipitated before it leaves the bladder.

Oxalate of lime.—When a mulberry calculus exists in this bladder, it is often very difficult to determine its nature. It was formerly shown that the urine, as connected with this diathesis, does not exhibit any peculiar or distinctive characters; nor is its formation inconsistent apparently with good health. Therefore, notwithstanding the rough and tubercular surface of this calculus, if the bladder be not diseased, and the stone of moderate size, but little irritation is excited. But when large, it produces very great irritation and suffering. The urine, in such cases, generally contains much blood and mucus, but in other respects it is tolerably healthy. It has the usual acidulous reaction, and there are few or no deposits, except occasionally a little lithate of ammonia. Therefore, it is from the existence of stone, and the absence of those properties which characterize the existence of the other species, that we are to infer the oxalate of lime.

Cystic oxyde.—If a calculus of this description exist in the bladder, no doubt fragments of it will be passed, as occurred in the case I have related. Add to which, that the urine always exhibits characteristics, and such as can never be mistaken. Thus, for nearly four or five years, I continued to make frequent examinations of the urine, and it never exhibited any other properties than those which I have detailed; they might vary in degree, but were uniformly the same.

Phosphatic calculi.—Most of the calculi to which this designation is given, it has been already shewn, have a nucleus of lithic acid, oxalate of lime, or some other substance; and that calculi composed exclusively of this substance are extremely rare. However, as all the other diatheses terminate, as it were, in this, we often find large stones, consisting of the earthy phosphates, in the bladder. When this is the case, the agonies of the patient are beyond description. Independently of intolerable pain in the bladder and neighbouring parts, the general health seems to give way, inasmuch as it is said that an experienced person can determine the presence of such a calculus even from the mere "looks of the patient." Indeed, the agonies endured by the unfortunate victims of the phosphatic diathesis, as already described, aggravated tenfold, may perhaps give some faint, though very inadequate, idea of the miseries suffered by those having a calculus of this description in the bladder. Such sufferings are calculated to undermine and break down the strongest constitution.

In this form, too, the urine is peculiar and characteristic, so that it cannot readily be mistaken. For the most part it is passed in very large quantity, is somewhat opalescent, and mostly of a pale wheyish colour. Its specific gravity is generally very low, varying between 1·006 and 1·012. The greater the quantity of urine passed at a micturition, the lower the specific gravity; indeed sometimes as low as 1·002 or 1·003; when, perhaps, two or three pints, or even quarts, may be passed at a single micturition; and such cases have been mistaken for diabetes. It mostly deposits the phosphates in abundance, frequently mixed with some carbonate of lime. I have seen urine of this sort opaque when passed, deposit the phosphates, and then become comparatively transparent, but in a short time become again turbid. The first opalescence depends upon the suspension of the phosphates, upon the deposition of which the urine becomes transparent, but still it holds a quantity of super-carbonate of lime in solution. The excess of carbonic acid here will give this urine an acidulous reaction, but as the excess of acid escapes, or is neutralized by the evolution of ammonia, the carbonate of lime becomes insoluble, and being suspended in the urine, renders it again turbid *. With the phosphates there subsides a large quantity of mucus, the characters of which cannot be readily described, but which you may observe in this specimen, which very closely resembles phosphatic mucus. The urine, though it may be acidulous at first, yet very soon becomes alkaline; the theory of which has been already explained. In such circumstances the smell is very offensive, indeed almost intolerable; and so rapidly does such urine undergo these changes, that it is impossible to keep a house with such a patient sweet. In one very remarkable case which I met with in the country, where the patient, in the last stage, became helpless, and passed his urine involuntarily, the smell was sensible, not only all over the house, but even extended to the garden and lawn, at a long distance from the dwelling. There will, therefore, be no great difficulty in determining the nature of such a calculus in the bladder. To sum up, if we have symptoms of stone in the bladder, as such symptoms may arise from diseases and irritations of the urinary organs, we must endeavour to determine the real nature of the cause. Sounding the bladder, as it is termed, will often set the point at rest, as the stone may be distinctly felt. However, if the stone should be encysted, it may not be sensible to the sound, and then we shall be deprived of the evidence to be derived from this method. Then we must have recourse to the conditions of the urine; and if, with the general symptoms, we find a calculous condition of the urine, we shall be fully justified in regarding the case as one of stone. Lastly, the general symptoms indicating, and the sound confirming, the existence of a stone in the bladder, we must have recourse to the examination of the urine to determine, at least so far as can be determined, the nature of the stony concretion, the rules for which have been dwelt upon already at sufficient length.

Treatment of stone in the bladder.—If we could be present and attempt the expulsion of a renal calculus from the bladder immediately on its arrival there, we probably should, in most instances, or at least in a great proportion of them, succeed. Therefore, if proper means have been adopted, in favourable cases, the calculus is mostly expelled. In some cases, however, this does not take place immediately, owing to irritation, spasm, &c.; but when these have subsided, the calculus often comes away spontaneously, and perhaps when least expected.

* That this is the true explanation of the above phenomena, may be proved as follows:—If the urine be filtered, and a little acid added, effervescence takes place. If such urine be heated, it becomes turbid, from the separation of a whitish powder, which, collected and examined, proves to be *carbonate of lime*. Lastly, if the transparent filtered urine be distilled, at a very moderate temperature, from a retort into a jar filled with and inverted over mercury, a gas escapes, and the urine becomes turbid. The gas, if examined, proves to be the carbonic acid gas, and the precipitate will be found to be carbonate of lime.

The principles of treatment for the expulsion or favouring the exit of a calculus from the bladder are much the same as those already detailed for effecting the same object from the kidney; for it is well known that whatever bulk will pass along the ureter will pass along the urethra. Hence one of our first objects will be to allay all irritation and spasm. The means consist in freeing the system, as far as can be done, from all causes and sources of irritation. Thus, the antiphlogistic regimen, depletion—general and local, according to circumstances—and the prevention of fæcal accumulation, present the most obvious means. To these succeed the use of narcotics and antispasmodics, as hyoscyamus and opium, which will allay the irritation of the urinary organs, and especially the spasmodic action of the sphincter vesicæ, which often is the only effectual opposition to the calculus entering the urethra. When these objects have been effected, the expulsion is to be favoured by diuretic purgatives, and such as increase the flow of urine. "By this plan," says Prout, "I have seen calculi removed from the bladder in a few hours, which had been apparently retained there for several months, and in one instance, beyond a doubt, as long as five months*."

But the stone, from various accidental causes, may have acquired such a size as that it cannot pass the urethra. If, therefore, after a reasonable trial of the above measures, it does not come away, means for dilating the urethra by metallic bougies, sounds, catheters, &c. should be adopted. Sir A. Cooper has extracted calculi by means of a forceps contrived by Mr. Weiss, and, indeed, has succeeded in this way when every other means had failed†. But it may happen that the stone has acquired such a magnitude as will render its expulsion or extraction, by any of the foregoing methods, quite hopeless; then the treatment evidently will depend upon circumstances, and the principles must be modified according to the prevailing diathesis; it will be more intelligible, therefore, to consider this subject in connection with the peculiar diathesis.

Lithic acid.—A calculus having been ascertained to exist in the bladder, and its composition having been ascertained by the means specified to be the lithic acid, we must proceed to adopt such measures as will afford the greatest relief. Now the distress and sufferings of the patient are usually proportioned to the severity of the existing diathesis. If the urine be in an unhealthy state, the more unnatural and the more loaded it is with sediments, whether crystallized or amorphous, the greater the distress. Therefore we must first endeavour to restore the urine to a healthy condition, or at least bring it as nearly as possible to a natural state. This, in the lithic acid species, is to be attempted by the means already mentioned upon this head, and the constitutional irritation is to be subdued by venesection, local blood-letting, and the use of anodynes. Alteratives, too, in this diathesis, are of essential service; such are, the Plummer's pill, for example, five grains of which may be taken over night, and a purgative consisting of tartrate of potass, or the Rochelle salts, with infusion of senna, the following morning. If the urine be very acid, some carbonate of potass may be added, or the alkaline carbonate given with some bitter infusion at intervals during the day. In some instances we may give a strong infusion of uva ursi with the alkali, or ten or fifteen minims of the solution of potass, with tincture of hyoscyamus, during the day, pursuing the plan above at night. We may persevere in the above till the urine begins to get natural, when we must discontinue the use of the alkalies, or at least in so active a form; for if the urine become alkaline it will produce more irritation of the urinary system, more especially the bladder, than even the lithic diathesis itself, and, perhaps, may bring on the phosphatic diathesis.

We must now carefully attend to the state of the urine, and at the same time continue mercury in alterative doses, such as five or ten grains of blue pill, every third or fourth night, with a purgative in the morning, consisting of a drachm or two of Rochelle salts, with the solution of bicarbonate of magnesia, mentioned in a former lecture, and taken in a state of effervescence. Indeed, the solution of magnesia will often answer every purpose; but, when the bowels are more torpid, the activity of the medicine should be proportioned. Where the phlogistic diathesis is strongly predominant, this may be broken or kept in check by the occasional exhibition of antimony in nauseating doses, as from fifteen to twenty minims of antimonial wine, two or three times a-day, so as to keep up some degree of nausea. By this means, not only will the urine in all probability be brought to a natural state, but may be kept so; and all the dis-

* On Diabetes, &c. p. 260.

† "If a small stone cannot be made to pass in the way I have mentioned, you will probably succeed in extracting it from the bladder by means of the urethra forceps. Indeed, I may say that you will never fail in doing so, unless the stone is beyond a certain magnitude, or there is something in the condition of the bladder to prevent it retaining a moderate quantity of urine; or unless there is a large tumor of the prostate projecting into the bladder, behind which the calculi may lodge, out of the reach of the instrument."—Sir B. Brodie's Lectures on Cal. Dis. Med. Gaz, May 21st, 1831.

tressing symptoms will either altogether disappear, or be greatly abated; and still further, the calculus cannot, under these circumstances, increase in size.

Having attained our object so far, we must enjoin strict attention to diet and regimen, and above all, to avoid all those circumstances already mentioned as either inducing or aggravating this diathesis; and then probably the patient, in favourable circumstances, will experience little or no inconvenience more than if he had no stone at all. Indeed, this will be almost certain, if the calculus be not very large, and that it be smooth, or not very rough. But if it be large and rough, and that the patient use violent or much exercise, no means can wholly alleviate his sufferings, although even in such cases great relief may be afforded by strict attention to the means specified as above.

Lithate of ammonia.—When a calculus of this sort exists, alkalies are inadmissible, for there is in such circumstances a great tendency to the phosphatic diathesis. This species is found to prevail more in children; therefore the cautious adoption of the means for the phosphatic diathesis must be had recourse to. "I doubt very much, however," says Prout, "if any treatment will prevent, under these circumstances, the phosphatic diathesis from being sooner or later established*."

Oxalate of lime.—In the case of oxalate of lime, the urine deviates, at least so far as we know, so little from the healthy condition, that we do not well know what plan of treatment would prove most effectual. In cases of oxalate of lime, from the rough and tuberculated surface of the stone, a good deal of inconvenience is frequently experienced. We must, therefore, as far as possible, endeavour to obviate these, and to correct any unnatural conditions of the urine, should they exist. The use of anodynes, as in the lithic acid, and the exhibition of chlorine, hydrochloric acid, &c., as already directed, when considering the oxalate of lime diathesis.

Cystic oxide.—If, from the properties of the urine, we presume the existence of a cystic oxide calculus in the bladder, we must pursue the same means as have been directed in this diathesis, but more especially those recommended in the phosphatic. The phosphoric acid may be given; and we should also recollect that, in consequence of the tendency to the phosphatic diathesis, that the use of alkaline remedies, at least for any great length of time, will be very hazardous. Therefore, if the use of an alkali be at all indicated, it should be used only until the object intended has been attained, and it should then be laid aside. Perhaps, too, the milder alkaline remedies, as the citrate of magnesia, or the solution of the bicarbonate, as already mentioned, would be preferable to the alkalies themselves in any form. But perhaps any thing that we can do can only be looked upon as merely palliative.

Phosphatic calculi.—When stones consisting of the phosphates exist in the bladder, we cannot be too expeditious in altering the condition of the urine, and restoring it to a healthy state. But still it must be acknowledged that, under the present circumstances, this is very difficult, if not altogether impossible, to accomplish. Dr. Prout states that he was never able to accomplish this purpose in a single instance, even after the most fair and persevering trial of almost every means hitherto recommended, or that he could devise as likely to effect his object; and therefore, he states, he could only procure temporary relief by the various exhibition of opiates; and he therefore looks upon lithotomy as the only alternative in this distressing disease*.

However, there may be objections to this, or the patient may refuse to submit to the operation; we must then have recourse to the means recommended in the phosphatic diathesis, and persevere strictly in their use, in the hope of mitigating the sufferings of the patient. As, however, there does not seem to exist any very great probability of our being able to correct the state of the urine, we cannot hope to prevent the gradual, though perhaps somewhat retarded, growth and increase of the stone.

With respect to the other means, keeping the bowels regular by such means as are suitable to the diathesis, and the free use of anodynes and astringents, are the most essential. Thus opium, or perhaps morphia, in this diathesis is the most effectual. According to Dr. Prout, hyoscyamus is better suited to the lithic acid diathesis, and opium to the phosphatic; but he also states, "that he has seen striking temporary relief produced even in cases of phosphatic calculus, by large doses of hyoscyamus combined with the uva ursi†." At the same time opium may be used as a suppository: opiate enemas injected into the rectum, or even urethral injections of opium, may be used; but it should be recollected in this case, that the urinary passages are already in a high state of irritation, and that it is the local irritation which renders this diathesis so obstinate and uncontrollable. Therefore, every means of soothing, such

* On Diabetes, &c. p. 263.

* Ibid. 264.
† Ibid. pp. 264, 265.

as the warm bath, fomentations, and the sitting over the steam of warm water, as for piles, and such similar means, should be adopted. Dr. Prout says, "In severe paroxysms I have seen great temporary relief produced by a lotion composed of the liquor plumbi acetatis dilutus and tincture of opium, applied to the perineum as hot as possible, by means of sponges, linen cloths, &c.*"

Are there any solvents for stone in the bladder?—This is a very important consideration, but also one which I believe can lead to nothing either settled or satisfactory. Indeed, when we consider the great difficulty of dissolving calculi even out of the bladder, unless we bring to our aid attrition and mechanical reduction to very minute particles, with strong lixivia and increased temperature, we certainly have no very encouraging prospects. It is true that of late some foreign writers have instituted experiments, in which they found that calculi left in certain menstruums or solvents lost weight, and that this occurred even in running streams possessing no very great powers as chemical solvents. But upon all these it may be observed, that the circumstances of the two cases have but few analogies. In the first place, a calculus immersed even in a very weak solvent is in circumstances much more favourable for its solution than when placed in the urine, because, in the first place, there are no modifying circumstances either to control, limit, or subvert, the chemical action of the solvent; neither does it hold in solution the constituents ready upon the first favouring circumstances to be precipitated and deposited upon the calculus, and thus increase its size. Further, the solvent, or rather the agency of the solvent, *is limited, or wholly confined, merely to keeping the urine in a condition unfavourable to any further deposition of the calculous principle*, and, consequently, can exert no solvent power upon the existing calculus. Therefore it appears that although calculi out of the bladder may be worn away, and reduced in size, by the mechanical attrition of fluids, or slowly by the solvent agencies of chemical menstruums, that, in consequence of the many counteracting agencies, such effects are not to be expected in the bladder, at least by the internal exhibition of remedies. Indeed, in some species of calculi—lithic acid, for instance—the alkali is not capable of exerting any solvent power over the calculus, for it is combined mostly with carbonic acid, which the lithic acid, as you already know, will not displace. In the phosphates, as has been already stated, in consequence of the irritation excited by the calculus, we cannot restore the urine even to a healthy state; how, therefore, can we expect to induce such a chemical condition as would enable it to dissolve such a stone when existing in the bladder? Therefore, it appears that we cannot, by the use of internal medicines, hope to make any impression upon a calculus already existing, and that the utmost we can hope for is to be able to prevent future accretion, and the increase in size of the calculus.

From the effects of chemical reagents upon the different species of urinary calculi, it occurred to some, that the introduction of these into the bladder would be attended with similar results, and hence solvents of the different species have been injected in a diluted state. This plan, however, will totally fail in lithic acid calculi. The alkaline carbonates, as already shewn, have no effect upon the lithic calculus; and the caustic alkalies, and even the carbonated, are very deleterious to the mucous membranes of the bladder. But to be effectual as solvents, the caustic alkali must be tolerably concentrated, and even thus, upon the masses of compact lithic acid I find that their agency is very trifling, even though long subjected to it, and which would be attended with the worst consequences in the human bladder. The other solvent, nitric acid, has but little effect in so diluted a state as is necessary to use in the living subject, and therefore little is to be expected from the mechanical or extraneous use of solvents in this form. Dr. Prout states that he has witnessed some trials of this sort, but, he says, "The results, I am sorry to say, were by no means such as to impress me with any very favourable notions of the general practicability of this plan; and, indeed, when the very weak state of the solvent that can be thus employed is taken into account, the consequent length of time for continuing the experiment, and, above all, the refractory nature of certain calculi, I confess I am very much disposed to doubt if any solvent at present known can, in the great majority of instances, be ever so administered as to produce the desired effect; and this, I believe, is the general opinion on the subject*."

But in the case of the phosphates and the cystic oxide, circumstances are certainly somewhat different. "The mineral acids undoubtedly exercise a much greater chemical action on calculi composed of the phosphates than alkalies do on those which are composed of lithic acid. It is not, indeed, possible to exhibit them by

* Ibid.

* Ibid. p. 284.

the mouth in such quantity as to render the urine sufficiently acid for the purposes of a solvent; but we have no right to conclude from thence that they may not produce this effect if injected into the bladder by the urethra*."

Acting on this principle, Sir B. Brodie informs us that he instituted a series of experiments for the purpose of investigating this subject. He began by injecting a solution of nitric acid in water, at first in the proportion of a minim to the fluid ounce, and afterwards gradually increased, till at last two minims and a half were added to the ounce, and the persons not only suffered no inconvenience, but, on the contrary, when there was chronic inflammation of the mucous membrane, they experienced considerable relief. Sir B. Brodie next ascertained what effect such a solution exerted upon a calculus composed of the mixed phosphates, and the result was sufficiently decisive to induce him to try it in an actual case. A case having presented in which the existence of a calculus of the mixed phosphates was unquestionable, the acidulous solution was made to pass into the bladder by one leg of a double canula, and so constructed that it could pass out by the other, thus subjecting the calculus to a continued stream of the diluted acid. The fluid was injected several times, and afterwards tested by ammonia; the phosphates were thrown down. The result, however, was, that two calculi, which appeared to be portions of the original one broken down by the use of the injection, were at last voided with the urine. The conclusions of Sir B. Brodie, therefore, are:—

1. That where the mucous membrane is affected with chronic inflammation, the urine depositing a viscid alkaline mucus, a very beneficial change may be produced by the injection of very diluted nitric acid.

2. That a calculus composed externally of the phosphates may be acted on by this injection, so as to become gradually reduced in size while it is still in the bladder of a living person.

3. That there is reason to believe that calculi, composed throughout of the mixed phosphates, such as are met with in some cases of diseased prostate gland and bladder, are capable of being entirely dissolved under this mode of treatment.

These are the conclusions of Sir Benjamin. Now it is to be recollected, that that when calculi of the mixed phosphates are found in the bladder, for the most part there is general disease of the urinary organs, and particularly of the bladder; and, as remarked by the above authority, lithotomy, and even lithotrity, are hazardous operations in such cases. Therefore, any means of dissolving a stone in such circumstances is a truly valuable addition to our stock of information; and the only consideration is, by what means this may be most effectually accomplished, and with the least irritation.

* Lectures on Cal. Dis., by Sir B. Brodie, Med. Gaz., June 18th, 1831.

VELPEAU'S

CLINICAL LECTURES

ON

OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S.

Sorbon.

On the Treatment of the various forms of Blepharitis.

I have hitherto laid aside all consideration of specific causes and constitutional peculiarities, in speaking of this class of diseases. I shall, therefore, follow the same plan now we have to determine the treatment which should be adopted.

If we take a rapid survey of the various therapeutical means we can oppose to each of these affections when they are purely inflammatory, we shall see that they may all be divided into two classes—those which are direct, and those which are indirect.

Having made this division, I must state, that, in my opinion, all indirect remedies, such as blood-letting, baths, revulsives, &c. ought merely to be considered as adjuvants, useful, it is true—necessary even in some cases; but never to be depended upon alone, if you wish to obtain a radical cure. My opinions on this subject have not been formed *à priori;* they have been adopted only after mature consideration, and are founded on a great number of experiments, many of which some of you have witnessed. No doubt the symptoms of the malady are often more or less mitigated by an indirect plan of treatment, which may consequently be of great assistance towards effecting a final cure; but, in the great majority of cases it does not suffice alone. The affection is local and external, and as such, a local treatment only can arrest its progress, and effectually restore the tissues to their normal state.

We will now examine the treatment of each form of blepharitis in particular. I intend, at the termination of these lectures, to resume the treatment of ophthalmia, taken in a general point of view.

Mucous Blepharitis.

Topical astringents are the best remedies we can employ against this form of inflammation; and among these, liquid collyria are by far the most efficacious. Numerous astringent collyria have successively enjoyed the favour of the profession; from these we may select three—those containing nitrate of silver, sulphate of zinc, and sulphate of copper; their efficacy being, in my opinion, much more clearly established than that of any other. I have often tried these collyria, and have always derived great advantage from their use. The one which contains the nitrate of silver, appears, however, to produce a more rapid amelioration than the other two; I now seldom make use of any other. It is, indeed, a most valuable remedy, as most of you who have followed my practice for any length of time must acknowledge. The formula which I follow, varies as the inflammation is more or less acute. I generally begin with half a grain or a grain of the nitrate of silver to an ounce of distilled water, increasing progressively to six, eight, or even ten grains to the ounce of water.

This treatment is, you see, extremely simple; nevertheless, for it to succeed, certain precautions must be used, and it is owing to their having been neglected that some practitioners have not derived from the remedy the benefit they had been led to anticipate. This remark may not only find its application in this instance, but also in many others in the course of these lectures.

The first point to be ascertained is, that that the prescription has been accurately prepared. This is of extreme importance where the quantities are so small, and ought especially to be attended to in hospital practice. Two or three drops of the collyrium should then be instilled into the eye, twice or thrice a-day, care being taken, at the same time, that the liquid comes in contact with every portion of the inflamed membrane. This may be attained by directing the patient to lean his head back, and then gently separating the eyelids with the fore-finger and the index of one hand, whilst with the other you allow a few drops of the liquid to fall into the eye from the phial itself. The patient should then be directed to turn the eye in different directions for a few seconds. This must be repeated several times in the course of the day, as already stated, for three or four days following, and the strength of the solution increased, should it appear necessary. The patient may then be allowed to rest for a day or two, when the collyrium is again resumed, as before. It often occurs that the amelioration is very slight whilst the remedy is used, but that as soon as it is laid aside the inflammation rapidly abates. This circumstance leads many persons to conclude, that, so far from having been benefited by the collyrium, their cure has been retarded. This, however, is a most erroneous opinion, and one which only a person unacquainted with pathology could form.

Thus treated, this disease seldom lasts more than ten days—that is, when purely inflammatory, without any complication, as we now suppose it to be. In some cases the inflammation will disappear in less than twenty-four hours. I must not omit to say, that if the patient is strong, robust, of a sanguineous temperament—if he complains of cephalalgia, and the face is flushed, it will be well to have recourse to bleeding. Such a measure, however, I must again remind you, is not indicated by the malady itself, but by the general state of the individual.

Glandular Blepharitis.

General treatment is not more efficacious in this form of blepharitis than in the one we have just examined. Ointments, however, should be preferred to collyria, as the latter do not remain sufficiently long in contact with the seat of inflammation. The astringent ointments employed against this affection are almost innumerable. Those most generally used are the ointments of Janin *, Lyon †, Regent ‡, Desault §, and those containing the nitrate ‖ of silver and the bichloride of mercury ¶. These ointments, which are efficacious preparations, should not be used indiscriminately in every case. If the glandular inflammation assumes the diphterical form, the best application is the white precipitate ointment, the proportions of which are, Axun. ʒi., Hydrar. Bichlor. 3i. Should the circle or ribbon I described become red and shining, you must have recourse to the ointments of Janin, Lyon, Regent, or Desault. If there are slight ulcerations along the internal free edge of the palpebræ, and the secretion

* The following are the formulæ of these preparations:—

℞ Adipis, oz. ss.; Tuthiæ—Bol. Armen. aa. 2 drachms.; Hydrar. Bichlor. 1 drachm. Misce.

† ℞ Hydrar. Binoxyd. gr. xv.; Ung. Rosati, 4 drachms. Tere et misce.

‡ ℞ Buthyri Hydrolato Rosarum Loti, 18 drachms; Camphoræ, 6 gr.: Oxidi Hydrar. 1 drachm; Acet. Plumbi Cristal. 1 drachm. Tere simul Oxidum Hydragyri et Acetatem Plumbi, adde Camphoram ante pulverisatam, dein buthyrum.

§ ℞ Hydrar. Binoxyd. Tuthiæ prepar., Acet. Plumbi, Alum. usti, aa. 1 drachm; Hydrar. Bichl. gr. xii.; Ung. Rosati, 1 ounce. Misce.

‖ ℞ Adipis, 1 drachm; Nitra. Argen. 1 gr. Misce.

¶ ℞ Hydrar. Bichlor. 1 drachm; Adipis, 1 ounce. Misce.

from the Meibomian glands is very abundant, the nitrate of silver ointment must be preferred.

You have had ample opportunity in our wards to convince yourselves, that a treatment directed on these principles is decidedly efficacious. You must, however, always bear in mind, that glandular blepharitis is an extremely obstinate malady, one which will long set at defiance every means we employ. Aware of this circumstance, you must be cautious not to promise your patient more than you afterwards may find yourself able to perform.

Granular Blepharitis.

This form of inflammation is extremely difficult to eradicate, more so than any we have yet spoken of, as you may learn by examining several patients now in our wards. You will find that they have been for some time affected with this complaint, and that every means which has been hitherto employed has failed. I have myself occasionally been successful, but never until after a lengthened treatment. If you keep in mind the extreme tenacity of this complaint, you will not be surprised to hear that the remedies which have been recommended or employed are exceedingly numerous. These remedies are principally astringent topical applications; their number, indeed, is so great, that I shall not even attempt to name them, but merely lay before you the results of the frequent trials I have made of the more important preparations.

When I first began to treat these diseases, I thought the collyrium containing the sulphate of zinc likely to prove beneficial. I soon found, however, that no reliance could be placed upon it, and have, consequently entirely laid it aside. I next had recourse to a rather strong solution of the nitrate of silver, eight or ten grains to an ounce of distilled water. The greater number of you have seen how slight is the benefit to be be derived from this remedy. Finding that these collyria appeared to have little or no influence, although so efficacious in some forms of ophthalmia, I successively tried all the principal preparations recommended by authors. Thus, in a great number of cases, I employed collyria containing subacetate* of lead, deutochloride† of mercury, calomel‡. I also employed laudanum in every form, the collyrium of Dupuytren§, the ointments of Janin, Desault, Regent, &c. oxide of bismuth pulverised, a powder formed with equal parts of calomel and sugar: none of these remedies, however, appeared to modify the disease. I then had recourse to caustics. In 1831 I had under my care a female, who had been labouring under very severe granular blepharitis for some months. The conjunctiva of the superior eyelid—the principal seat of the disease—was thickened and covered with fungous granulations. I cauterized lightly, five or six times, the inflamed surface with the solid nitrate of silver, at six or eight days' interval, and obtained a complete cure. Since that time the nitrate of silver, although sometimes successful in my hands, has often failed to produce a similar result. Should you make use of this remedy, you must be careful how you apply it. The nitrate of silver should be drawn slightly across the inflamed conjunctiva, merely so as to whiten the surface. Were the cauterization to give rise to loss of substance, a cicatrix would be formed, which would in all probability produce entropium, with the usual train of disagreeable symptoms. When the solid nitrate of silver is used, this accident may occur, although the greatest circumspection has been employed; I have, therefore, sometimes substituted for it the sulphates of copper or of iron, the action of these preparations not being quite so energetic. The use of these remedies has been attended with advantage to the patient in some instances, but generally the disease has not been perceptibly modified.

I have not only given a trial to every kind of topical application likely to prove beneficial, but I have also had recourse to the various direct methods of treatment recommended by ophthalmologists. In a great number of cases I have applied blisters to the nape of the neck, the temples, the mastoid region, the arms, and the legs; I have even applied them over the orbit itself. In no instance, however, did these measures seem to make much impression on the disease. I have also tried blood-letting, colchicum, purgatives of all kinds — mercurial, saline, resinous — and still the results have been as unsatisfactory as before. I have employed iodine internally and externally, in every shape, and in a few instances with apparent success. The patients, however, were of a lymphatic constitution, had been long affected with this form of blepharitis, and had been treated in every possible manner. I dare not, therefore, assert that the iodine effected the cure; it may have done so, or it may not. The remedy which I have perhaps found the most efficacious, is a powder containing sulphur and calomel;

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* R. Subacet. Plum. gr. v. ad xv.; Aquæ destill. oz. iv. Misce. Ft. collyr.

† R. Hydrar. Bichlor. gr. ½; Aquæ destill. oz. i. Misce.

‡ R. Calomel. dr. i.; Aq. destill. oz. vi. Misce. Ft. collyr.

§ R. Sacchari Albi, drachm ii.; Hydrarg. Binoxy. gr. x.; Tuthiæ, gr. xx. Tere et misce.

and yet, although in many cases it has proved exceedingly beneficial, its efficacy, I must confess, has in other instances often appeared doubtful.

This survey of the various remedies employed in the treatment of granular blepharitis has not led us to any very satisfactory conclusion; indeed, a really efficacious treatment of this disease is yet to be found. In the present state of our knowledge, no plan that we can adopt appears, in many instances, to exert much influence over its progress. The following rules may, nevertheless, be laid down :—

The patient should at first be bled two or three times, according to the strength of his constitution and the state of his general health; purgatives may also be given with advantage, and repeated once or twice. Then use the collyrium, containing the nitrate of silver, for six or eight days, applying at the same time the nitrate of silver ointment, if the free margin of the eyelid is inflamed. Should no amelioration take place during this period, it is useless to expect any benefit from the nitrate of silver; you must, therefore, give the other remedies we have examined a trial. If the various collyria and ointments fail to make any impression on the disease, you must, as a last resource, resort to cauterization with the solid nitrate of silver, the sulphate of copper, or the sulphate of iron.

Purulent Blepharitis of new-born Children.

Although by far the most serious of the different forms of inflammation we are examining, purulent blepharitis is the least refractory to the action of therapeutic agents. Leeches, emollient poultices, blisters, purgatives, &c. have been much extolled against this malady. They are undoubtedly valuable remedies, but as accessories only. Here, again, topical applications, aided by attention to diet, and the rules of hygiene, are alone to be depended upon for a radical cure, at least in the great majority of cases. Among these, the collyrium with the nitrate of silver or the salt in substance, when it is possible to cauterize directly the inflamed surface, have seemed to me more especially worthy of confidence. Sometimes the palpebræ are so much swollen that it is impossible to separate them sufficiently to employ the solution in the usual manner. In this case you may apply the remedy by means of a small syringe, the extremity of which is introduced between the palpebræ, near the outer angle of the eye. In every case, however, where it is practicable, the internal surface of the eyelids should be exposed, and the nitrate of silver lightly drawn across. Cauterization, practised in the above manner, has proved, in my practice, the most successful plan of treatment.

In the chronic stage, methodical compression, in addition to the means I have already mentioned, has often proved extremely serviceable. I need scarcely add, that extreme cleanliness is indispensable; and that in all cases, when it is practicable, the patients should be removed to a pure healthy atmosphere, if the one they are living in does not present the desired conditions.

Ciliary Blepharitis.

I have but a few words to say respecting the treatment of ciliary blepharitis. It is the same, in nearly every respect, as that of the granular form of inflammation. The ointments most serviceable in the one, will also be found most serviceable in the other. Thus I have often subdued this affection with the nitrate of silver ointment, as also with those of Janin, Desault, and Regent. I must again remind you, that it is more especially during the first stage of this disease that the treatment you make use of, whatever it may be, is likely to succeed.

CLINICAL REPORTS

OF

DIFFICULT CASES IN MIDWIFERY.

By Robert Lee, M.D., F.R.S.

Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital.

[Continued from p. 562.]

SECOND REPORT.

Cases of Accidental Uterine Hæmorrhage.

Mauriceau has related thirty-five cases of uterine hæmorrhage in the latter months of pregnancy, in which the placenta did not present, but had adhered to the upper part of the uterus, and been detached by some accidental cause. Twenty-one of these cases occurred before the year 1682, and in almost all of them he delivered artificially, by turning the child. The treatment, in these cases was, therefore, the same as that which he had employed in the sixteen cases of placental presentation, referred to in my last report, and differed in no respect from the treatment recommended by Ambrose Paré and Guillemeau, in all the varieties of flooding in the latter months. But in the year 1682, Mauriceau's case, No. 307,

occurred, and in the treatment of this he deviated from the former practice; and instead of delivering immediately, by turning the child, he ruptured the membranes and left the labour to nature with the happiest result.

Mauriceau gives no account of the causes which induced him to make this important change in the treatment of cases of uterine hæmorrhage in which the placenta did not present, and to adopt that method which was afterwards so strongly recommended by Puzos, in 1743, and considered by himself and almost all later writers as his discovery. The great fatality which attended the operation of turning, in cases of accidental uterine hæmorrhage, was the reason assigned by Puzos for rupturing the membranes, and pursuing, what he terms, a middle course between forced delivery and leaving the process wholly to nature.

From the history of a case of accidental uterine hæmorrhage which occurred to Mauriceau in 1685, and another in July 1686, where he had recourse to the operation of turning, it is probable he was not convinced of its safety in all cases before the month of August 1686. His 450th case then occurred, and the pains being feeble, and the hæmorrhage great, he ruptured the membranes, by which means, he says, the infant could advance into the passage without pushing the membranes before it, and further detaching the placenta as it had previously done, and inducing the hæmorrhage. The liquor amnii having escaped, after the rupture of the membranes, the labour pains, which before had been feeble and useless, speedily became strong and efficient, and the patient was happily delivered of a living child in half an hour, and the mother recovered favourably.

His 429th case occurred in 1687, and in this, also, he ruptured the membranes, which, he says, should be done in all similar cases. Cases 480 and 496 occurred in 1697, and in both of these the membranes were ruptured, and the labour left to nature. The reason why he had recourse to this practice is again clearly stated in the history of the last of these cases. Case No. 542 took place in 1688. The patient was in the ninth month of pregnancy, and the feet presented, and he ruptured the membrane and extracted the child by the feet. In case 585, which occurred in 1690, he also ruptured the membranes as soon as they became tense, and again states the reason why he did this. In cases No. 624 and 633, which happened in 1691, hæmorrhage took place in the seventh and eighth months of pregnancy, and in these he also ruptured the membranes with the happiest effect. These facts prove that we are indebted to Mauriceau for a knowledge of the practice, now generally adopted, of rupturing the membranes in cases of accidental uterine hæmorrhage; or, that he was first who had recourse to it. His aphorism, No. 52, likewise proves that he was fully aware of the importance of rupturing the membranes when hæmorrhage occurred in the first stage of labour.

Portal, Rœderer, Levret, and other foreign authors, who succeeded Puzos, do not appear to have placed that reliance upon rupturing the membrances in cases of accidental uterine hæmorrhage, which the practitioners of this country have generally done since the time of Smellie. That Smellie was fully aware of its importance, and frequently employed artificial dilatation of the os uteri after he had ruptured the membranes in flooding where the placenta did not present, his works afford the most satisfactory evidence.

Dr. Rigby has related sixty-four cases of accidental uterine hæmorrhage, and though many of these "were very alarming cases, as the patients lost large quantities of blood, and were extremely faint, not one proved fatal, not one but terminated safely, by waiting for the efforts of nature to expel the contents of the womb*." At least eight of Mauriceau's thirty-five cases ended fatally.

Out of sixteen cases of accidental uterine hæmorrhage, where the membranes were ruptured by Dr. Ramsbotham, seven proved fatal†.

Thirteen cases occurred to Dr. Collins, in the Dublin Lying-in Hospital, two of which proved fatal; and ten to Dr. Joseph Clark, four of which ended unfavourably.

"In my own practice," observes Dr. Merriman, "upwards of thirty cases have occurred of accidental uterine hæmorrhage during parturition, in which I have adopted the method of rupturing

* Essay on Uterine Hæmorrhage, 5th edition, p. 262.

† Observations on Midwifery, vol. ii. p. 169.

the membranes, as a means of lessening or suppressing the flooding, and as yet have had no reason to be dissatisfied with the plan; for in every instance the discharge has entirely ceased, or has been so much diminished as to secure the safety of the patient; and yet there were some among these patients whose cases, from the profuse hæmorrhage, were abundantly alarming*." Dr. Merriman has informed me that he has since witnessed three cases in which the flooding was not arrested by rupturing the membrane. The twenty-seventh case now related was one of these.

Dr. Hamilton states, that during the last thirty years he has met with only two cases where he has adopted this practice, and on both these occasions he resorted to it with great reluctance. Except in cases where the os uteri is rigid, and where the operation of turning is opposed by the patient or attendants, he says the practice must be the same as in hæmorrhage, from the attachment of the placenta over the os uteri, that is, wherever danger threatens, the operation of turning must be had recourse to†.

The following report contains the histories of all the cases of accidental uterine hæmorrhage which have fallen under my observation, and of which notes were made at the time they occurred. A faithful account of all the unfortunate cases, as well as of those which terminated favourably, with the plan of treatment adopted, may assist in enabling us to determine the degree of reliance which can be placed upon rupturing the membranes—the period when it ought to be resorted to with the greatest prospect of success—and the method of accomplishing delivery where it entirely fails to arrest the hæmorrhage.

Of the twenty-four cases of accidental uterine hæmorrhage here related, there were six in which the discharge of blood was not checked by rupturing the membranes. In four of these, delivery was accomplished by craniotomy, one by turning the child, and one by the forceps. In sixteen of the twenty-four the membranes were ruptured with the most decided advantage; and in the remaining two cases of the twenty-four the membranes were not ruptured, nor was artificial delivery had recourse to. There was internal uterine hæmorrhage in the four fatal cases. In two of these, I believe, death could not have been prevented by any means we possess, but it would have been better practice in these, and in some of the other severe cases, to have ruptured the membranes sooner, before the powers of the constitution were destroyed by the great loss of blood.

Case XXIV.—October 29, 1827. Mrs. Turner, No. 22, Drury Lane, in the 8½ month of pregnancy, mother of eight children, had nearly died from flooding in a former labour. Last night had a severe rigor of three hours' duration, followed by pains at intervals in the region of the uterus. At 8 o'clock this morning a great discharge of blood took place; and at half-past 11, when I first saw her, a very large quantity of blood had been lost. The countenance was pale; extremities cold; pulse 120, and extremely feeble. Blood still flowed from the vagina. The os uteri soft, and very little dilated, and the pains of which she complained produced no sensible effect upon it. I immediately ruptured the membranes, and this was followed by regular strong pains, the disappearance of the hæmorrhage, and the descent of the head of the child. The orifice of the uterus was also gently dilated during the pains, and for an hour there was a prospect of the labour being speedily terminated by the natural efforts. The pains, however, again became more and more feeble, and in two hours they ceased completely, and the hæmorrhage was renewed; and it was evident she would speedily sink if not delivered artificially. As I had good reason to believe that the child was dead, and feared, from the great exhaustion, she might die during the operation of turning, I had recourse to craniotomy, which was easily performed. The placenta immediately followed the extraction of the child, and large masses of coagulated blood. The hand was passed into the cavity of the uterus, and at the same time strong pressure made over the hypogastrium; but the uterus would not contract, and a stream of blood flowed over the hand till it was withdrawn altogether. Mr. John Prout then dashed cold water over the naked abdomen, and afterwards applied a binder and compress around the abdomen, and introduced linen rags, soaked

* Synopsis of Difficult Parturition, p. 119.
† Practical Observations, vol. ii. p. 264.

in vinegar and water, into the vagina. By these means the hæmorrhage was at last arrested, but she afterwards died from inflammation of the uterus.

Case XXV.—On the 5th November, 1828, at 2½ A.M. Mr. Grant, of Thayer Street, called me to see Mrs. Jones, æt. 31, who was in the ninth month of pregnancy, and had been exposed to great fatigue during the whole of the preceding day.

At 5 P.M. of the 4th November the membranes gave way, and the liquor amnii was discharged without uterine contractions. Mr. Grant saw her soon after, and found the head presenting. There was no uterine hæmorrhage or unfavourable symptom. At 8 o'clock in the evening, her husband returned to inform him that she had fainted, and on recovering complained that she could not see the objects around her. There was then a slight oozing of blood from the vagina, and feeble pains. The symptoms gradually put on a more alarming appearance, till half-after two o'clock in the morning. The extremities were then cold; the respiration was laborious, and the pulse could not be felt; abdomen distended. The os uteri was fully dilated, and the head was sufficiently low in the pelvis for the forceps to be applied. There were feeble pains. I applied the forceps easily; but as she was almost insensible, and it was impossible to preserve her steadily in a position which admitted of the extraction of the head without injuring the soft parts with the instrument, and as the external hæmorrhage became much more profuse, and the symptoms more formidable, the blades of the forceps were withdrawn, and the delivery was accomplished in a few minutes by the perforator and crotchet. A large mass of clotted blood followed the child; and soon after the placenta, and an immense gush of fluid blood, succeeded. The hand was passed into the uterus, and a large quantity of coagula extracted; and the hand was kept some time in the cavity, to make it contract, but without success; and the flow of blood continued in spite of pressure, cold, and stimulants, till she sank, at 5 o'clock in the morning.

Case XXVI.—On the 18th November, 1829, a midwife called me to a woman residing at 338, Oxford Street, who was in the ninth month of pregnancy, and had been suddenly attacked with uterine hæmorrhage, at 3 o'clock in the afternoon. She had been in perfect health, and had partaken of a hearty dinner, when a gush of blood suddenly took place from the uterus. Slight pains soon followed. I saw her an hour after this; when she was faint, and was suffering much from sickness and vomiting. The os uteri was dilated to the size of half-a-crown; the orifice thick and rigid. I immediately ruptured the membranes, and a large quantity of liquor amnii escaped. The hæmorrhage ceased, and the pains became strong and regular. An hour after, the pains had almost entirely gone off, and the flooding returned, with great faintness, hurried breathing, and feeble pulse. It was evident death would soon take place if delivery were not speedily effected. The thick rigid condition of the orifice rendered turning impracticable, and she was therefore delivered by craniotomy. The abdomen was compressed and the placenta extracted; but though very little more blood was lost, the extremities became colder, the breathing more laborious, and the vomiting more urgent; and she died in two or three hours after delivery.

Case XXVII.—At 4 A.M. on the 22d June, 1839, I was requested, by a medical friend of great experience and reputation, to see a patient in the ninth month of pregnancy, who had awoke two hours before, with pain of the abdomen and sickness at stomach. Vomiting, coldness of the extremities, and great faintness, followed. As she was in perfect health at bed-time, the symptoms were believed to arise from indigestion, and some medicine was prescribed for its relief. At 4 A.M. the symptoms were not relieved, and pains in the lower part of the back began to be experienced, with a slight discharge of blood from the uterus. The orifice of the uterus was slightly open, and the lips thick. The head of the child presented. At 5, the hæmorrhage increasing, I ruptured the membranes, and gently dilated the orifice with the fingers during the pains. The flow of blood, however, still increased, and the symptoms of sinking became so alarming, that it was evident artificial delivery was the only thing that could save her life. The movements of the child had

not been felt since the first attack, and the orifice not being in a condition to allow of the easy introduction of the hand to turn, we resolved to have recourse to the perforator and crotchet. The delivery was easily accomplished; but though no blood was lost after the extraction of the child, and the placenta soon followed without assistance, she continued gradually to become worse, and died at a quarter to 8 o'clock.

We examined the body the following morning, and found the uterus soft and uncontracted, with a large dark-coloured clot in its cavity. The softening of the walls of the uterus, which could not be the effect of putrefaction, was so great that the points of the fingers could readily perforate them. The decidua was found adhering to a great part of the lining membrane of the uterus. The lining membrane itself was seen perfectly natural, at the upper and back part of the uterus, where the placenta had adhered, and every where else. There was not the slightest trace of any portion of this membrane being wanting.

Case XXVIII.—On the 16th April, 1829, I was called by a midwife to a patient residing at 12, Great White Lion Street, who was at the end of the eighth month of pregnancy, and who had been attacked, fourteen days before, with a severe flooding. It had returned three or four times, to an alarming extent, and this day she was so much affected by it that it was obvious she would sink if not speedily delivered. No part of the placenta could be felt through the os uteri, which was soft and dilatable, though but little dilated. The presentation was natural. I ruptured the membranes, dilated the os uteri gently, and made pressure with the binder. Slight uterine contractions followed, and continued regular for a short time; but they gradually went off altogether, and the hæmorrhage was renewed to a dangerous extent. I passed up the hand into the uterus, and turned the child without difficulty. It was born alive and well. The placenta was removed soon after, and the hæmorrhage did not return; yet she sunk into a state of the most alarming exhaustion, and seemed for a considerable time on the point of expiring. She, however, gradually rallied, and in three weeks she was going about and suckling her child, as if nothing unusual had occurred.

Case XXIX.—At 8 p.m. October 24, 1835, I was requested, by the overseers of the parish of St. Andrew's, Holborn, to visit a patient in the parochial infirmary, who was in the ninth month of pregnancy, and had been attacked with profuse uterine hæmorrhage two days before, and which still continued. The head of the child presented; the os uteri fully dilated; membranes ruptured; pulse rapid and feeble. Extremities and face cold; great faintness. The pains were regular and frequent; but they had no effect in pressing the head forward. Mr. Dunn agreed with me in thinking that, as there was no great hæmorrhage going on, and the pains were regular, it would be proper to wait for the natural efforts, and support her strength by stimulants. After an hour, the coldness of the face and extremities had increased, the pulse was more feeble, and the pains, which were feeble and irregular, were producing no effect in advancing the head, and it was clear she would not be delivered without artificial assistance. The child had not been felt to move for two days. The head being sufficiently low for the forceps, and the parts dilated, I readily applied the instrument, and extracted the head. The cord was round the neck and did not pulsate. The placenta soon came away, and no hæmorrhage followed.

It would have been better practice in this case to have delivered sooner, by turning or craniotomy.

Case XXX.—On the 12th July, 1835, Mrs. C——, when eight months pregnant, had a discharge of blood from the uterus, without any apparent cause. By remaining constantly in the recumbent position, with cold applied to the hypogastrium, the discharge diminished, but never entirely ceased. At 6 a.m., 22d instant, the flooding returned, with feeble pains at intervals. At 8, the os uteri was felt closed, and high up. At 3 o'clock the hæmorrhage continued, with great faintness, a rapid pulse, and pains in the abdomen like cramps.

I ruptured the membranes with difficulty, and discharged the liquor amnii, and gently dilated the orifice with two fingers, and made pressure over the fundus. The pains continued feeble and irregular, till 7 o'clock at night, when there was great faintness and a

feeling of weight and distension of the abdomen. The binder was firmly applied round the abdomen, and wine and other stimulants given; andthe pains becoming stronger, the child was expelled dead, with the cord around its neck, at 9 P.M. A great quantity of coagulated blood escaped immediately after the child, and the placenta soon followed. More than half of the uterine surface of the placenta was covered by a dark-coloured clot of blood, which firmly adhered to it. This part of it was in a morbid state, being less than one-half thinner than the healthy portion, and the death of the child and hæmorrhage were both probably to be referred to this cause.

There could be no doubt about the propriety of rupturing the membranes in this case when it was done; but I am doubtful if it would not have been better to have delivered six or eight hours after, by turning or craniotomy, when the orifice was so dilatable as to allow of delivery with safety. Where there are symptoms of internal hæmorrhage, it is not safe to delay so long to empty the uterus.

CASE XXXI.—A lady, eight months pregnant, was attacked with uterine hæmorrhage, on the morning of the 14th November, 1838. When I saw her, at 5 P.M., the medical attendant informed me that the placenta did not present, and that the membranes were ruptured and the liquor amnii discharged. I found the orifice half dilated, the membranes unruptured, and the hæmorrhage still continuing, with great faintness. The membranes were immediately opened, and the hæmorrhage ceasing, and the pains becoming strong and regular, the child was expelled (dead) in half an hour. The placenta soon came away, and no flooding afterwards took place.

The placenta was in a diseased condition, some parts being three times the natural thickness, hard, and of a yellow colour. On cutting into these thickened parts, masses of coagulated blood were found in the interstices of the vessels. It was a perfect specimen of apoplexy of the placenta; and the death of the fœtus, and the accidental separation of the placenta, were both to be referred to this cause.

The good effect of rupturing the membranes was most striking in this case.

[To be continued.]

CLINICAL OBSERVATIONS

ON

THE USE OF THE AIR-DOUCHE IN THE DIAGNOSIS AND TREATMENT

OF

DISEASES OF THE EAR.

By T. WHARTON JONES, ESQ.

[*For the Medical Gazette.*]

No. I.

CIRCUMSTANCES having of late forcibly drawn the attention of the profession to catheterism of the Eustachian tube, and injections of atmospherical air into the tympanum, it behoves every one to contribute what mite of information he may possess, at all calculated to clear away the difficulties or doubts which hang about the subject; for, like most new modes of treatment, considerable misconception prevails regarding it, both as to the principle and performance of the operation, as well as its advantages, being on the one hand overrated, and on the other underrated.

Carefully observed and faithfully reported cases, it is obvious, are the only means of guiding to a correct judgment. Many cases are to be found in the works of Deleau and Kramer, but they do not record the daily progress of the treatment: for this reason I have thought the following cases, extracted nearly word for word as they occur in my case-book, might be read not without interest. And here I would express a hope that these contributions will be received as they are offered—viz. as imperfect observations on a subject not, indeed, of easy investigation, but by no means incapable of it—a subject which, it is hoped, surgeons will see the propriety of attending to more than hitherto, so as to be able to discriminate what can from what cannot be done, and what it is safe from what it is unsafe to do. In all this we must keep in mind the precept—"Nil fingendum, nil excogitandum, sed inveniendum quod natura ferat—quod natura faciat."

It is to be premised, that we endeavour to form our diagnosis of the state of the Eustachian tube and cavity of the tympanum on the principle already adopted in diseases of the chest—viz. to hear, when it is impossible to see or touch the disease, the only difference

being, that the air producing the sounds in the tympanum is put into motion artificially by the air-douche.

In regard to the air-douche as a means of treatment, all that can be effected by it is the gradual dispersion of any accumulation of mucus which may exist in the middle ear, or the rendering pervious the Eustachian tube, the walls of which have been glued together by thickened mucus.

The eye and ear, though apparently so very different from each other, coincide in many respects both in their structure and in their diseases. As the diseases of the former are much better known than those of the latter, the cautious use of this analogy will be of material service in our examination of the morbid conditions of the ear. Thus, for the sake of example, it may be mentioned that the conjunctiva, that part of the eye which is the seat of some of its most important diseases, is a mucous membrane situated at the peripheral surface of the eyeball. In the ear, some of the most common cases of the derangement of its function depend, in like manner, on the morbid condition of a mucous membrane—that lining the cavity of the tympanum—which, being situated at the peripheral surface of the labyrinth, the essential part of the apparatus of hearing, bears exactly the same anatomical relation to it as the conjunctiva does to the eyeball. Again, the nasal duct, a mucous canal, is the seat of some not unfrequent and very troublesome affections of the eye. The Eustachian tube, which resembles the nasal duct in every anatomical particular, does so also in a remarkable degree in its pathological states. Many more examples might be given of the similarity between the structure and diseases of the eye and ear, but these are sufficient to direct attention to the fact. It is to be borne in mind, however, that in consequence of the difference of conditions required for the exercise of the functions of the two organs, the same elementary form of disease shall have a very different effect on vision and hearing. For example, inflammation and obstruction of the nasal duct has not such a direct effect on the exercise of the function of the eye as the same state of the Eustachian tube has on that of the ear.

In the case of the eye, we can readily remove any accumulation of thickened mucus by means of a sponge and warm water; but the more inaccessible cavity of the tympanum requires to be cleared out by more complicated means. In applying the air-douche for this purpose, or for the purpose of diagnosis, we ought to go on much the same principle as is followed when it is wanted to blow dust, &c. out of the pipe of a key—viz. give free room for the regurgitation of the air, both where the catheter is inserted into the mouth of the Eustachian tube, and where the nozzle of the tube of the air-press is inserted into the dilated end of the catheter.

But as in catarrhal ophthalmia, for instance, it is not enough to wipe away the discharge from the eye, but also necessary to make some local application to the conjunctiva, if not to employ some general remedy; so in many cases we must medicate the membrane lining the cavity of the tympanum at least (if we do not think it necessary to adopt any more general treatment), after the accumulated mucus has been removed by the air-douche; or in the event of no accumulation existing, there may still be a morbid state of the membrane lining the cavity of the tympanum, admitting of being as beneficially acted upon by some local stimulating application as the conjunctiva in chronic conjunctivitis.

It is as simple a matter to put a drop into the eye as to wipe away a discharge; but in the case of the ear, it is as complicated a proceeding to apply a remedy directly to the membrane lining the cavity of the tympanum as to disperse accumulated mucus. Watery injections are inconvenient in their application, and cause pain. The vapour of acetic ether, admitting of being easily sent in, and exciting no pain beyond a prickling sensation, has been found the best adapted.

The cases which derive advantage from the injection of ethereal vapour, Dr. Kramer considers cases of nervous deafness; but I believe some change in the membrane lining the tympanum, will, in many instances, be found a more likely cause of the symptoms than any affection of the auditory nerves, as well as the more likely condition to be benefited by the contact of the vapours of acetic ether.

We have, as yet, no correct knowledge of the diseases of the labyrinth. A correct diagnosis, as far as may be, having been formed, of course it is advisable to employ, before or in addition

to purely local treatment, leeching, blistering, or whatever other more general remedies may be indicated, the same principles that guide in the employment of general treatment in diseases of the eye, &c. guiding us here.

To place in a striking point of view how far the air-douche serves as a means of diagnosis, and how far as a means of treatment, I take the following calculation from Dr. Kramer's "Tabular view of the frequency and curability of diseases of the ear," remarking that it corresponds with my own, though less extensive, experience here. Out of 300 cases of diseases of the ear of all kinds, 200 in round numbers require the air-douche to assist the diagnosis, but about 30 only are curable by it. Of the remaining 170, about 30 are put down as cured, and about 50 as relieved, by the injection of vapours of acetic ether; this treatment having been continued for months. Of the remainder, 80 were considered as incurable from the first, and not treated (farther than the exploratory treatment, I suppose); the rest remained rebellious to treatment.

As, in the following cases, admeasurement of the hearing-distance by a watch is constantly referred to, it may be well to remark, that the capability of catching conversation is not always in proportion to the power of hearing a definite and equable sound, like that of a watch. The power to follow conversation, is, in fact, sometimes greater than we might suppose indicated by the distance at which a watch is heard; but, on the other hand, it is also sometimes considerably less, and this I have particularly remarked in cases treated, and so far improved, by the injection of vapours of acetic ether. Notwithstanding this, an approximate conclusion regarding the state of the hearing, sufficient to regulate our diagnosis and treatment, can be made by means of the ticking of a watch, particularly as the sound can be admitted to the ear under examination, always under similar circumstances.

CASE I. — *Accumulation of Wax in external Auditory Passages. — Obstruction of Eustachian Tubes. — Cavity of the Tympanum free.*

A. B., a woman-servant, aged 40.

Wednesday, August 8, 1838.—*Left ear:* Hearing distance by a watch, two inches, with noise in the ear sometimes like a waterfall.

A year last January, the affection came on for the first time, in consequence of cold. The deafness continued for about six weeks, and then went off suddenly. About the end of the following summer the deafness came on again, and then went off as before. Was attacked again in the following winter, but that time the deafness and noise in ear continued three months. The present attack has continued six weeks.

Right ear.—Hears the same watch at a distance of nine feet ten inches. Had noise in the right ear last year, but not now. The right ear was as bad as the left when first attacked.

Throat a little red, but not swollen. Sense of smell not so acute as formerly, and nostrils rather dry.

Considerable accumulation of dark-brown wax in both auditory passages.

Wax ordered to be syringed out, preparatory to further examination.

Thursday, 9th.—Has had both ears syringed out. The passage on the right side is now quite clean, and free from any accumulation of wax; but the lower wall, about the middle, has been fretted by the point of the syringe. The membrana tympani on this (right) side, is opaque and slightly yellow; the handle of the malleus, however, can be distinctly seen.

Still some wax in the left passage, so that only the lower part of the membrana tympani can be seen; and this part appears to be in the same state as the membrane is on the right side.

Noise in the left ear entirely gone, but still feels stuffed.

Hearing distance of the right ear, fifteen feet, seven inches; of the left ear, fifteen feet, four inches.

Ordered the left ear to be syringed again, and a solution of the Acetate of Lead (gr. iij. Aq. Dest. ℥j.) to be poured into the auditory passages two or three times a-day.

Friday, 10th.—Hearing distance of right ear, thirteen feet, nine inches; of left ear, nine feet, six inches.

Still some wax in left auditory passage, which was ordered to be syringed out again.

A feeling of stuffing, in both ears, proceeding from the nose, as if she could not breathe.

Applied the air-douche to the left side, and found that the air did not penetrate to the tympanum.

To take a little medicine.

Saturday, 11th.—Still some wax adhering to the upper wall of the left auditory passage, but the whole of the membrana tympani can be seen. Has had some noise in the left ear like the singing of a tea-kettle.

Hearing distance of the right ear 10½ feet; of the left ear, 14 ft. 9 inches.

Applied the air-douche again to the left ear, but the air did not penetrate. Applied the air-douche also to the right ear. The air penetrated at first in a small whistling stream, and then with some gurgling, but yet not very freely. Stuffing on the right side a little relieved, but still exists on the left side.

The right ear heard the watch, after the application of the air-douche, at the distance of 17 feet 9 inches; the left ear at 11 feet 10 inches.

Monday, 13th.—Left auditory passage is now quite clear. Still some noise in left ear like the ticking of a watch, but not constant.

Applied the air-douche to the left ear. The air now penetrated a little, so that the sensation of stuffing is somewhat less. Applied the air-douche to the right ear also, when the air entered more freely than on Saturday, and with a rushing and gurgling sound.

Hearing distance of the right ear is now 18 feet 4 inches; that of the left ear is 19 feet 9 inches.

Tuesday, 14th.—The right ear just just hears the watch from one corner of the room to the other (about 25 feet). No stuffing.

Left ear.—Stuffing less; still some noise like the ticking of a watch occasionally. Just hears the watch from one corner of the room to the other.

Applied the air-douche to the left ear only to-day. The air now enters freely with a rushing and howling sound. After the douche, no noise in the ear, nor feeling of stuffing. The heaviness and confusion of the head which she had formerly are now gone. About five minutes after the application of the air-douche, heard the watch with the left ear pretty distinctly from one corner of the room to the other.

Wednesday, 15th.—Has had no noise in the left ear since yesterday. Stuffing very much less. No stuffing in the right ear. Throat and tongue pretty well.

Hears the watch distinctly with both ears from one corner of the room to the other.

To come again on Friday.

Friday, 17th.—Noise in the ears recurred this morning, together with the sensation of stuffing.

Right ear 14 feet 8 inches; left ear 16 feet.

Applied the air-douche to both sides. There was some gurgling heard in the right tympanum. Some stinging pain felt, more on the right side than on the left, when the air is sent in with any degree of force.

After the douche, heard the watch from one corner of the room to the other, but less distinctly with the right ear than with the left. Noise and stuffing gone.

Saturday, 18th.—No complaint, and hears well. Dismissed, cured.

Remarks.—Though a simple, this is a very valuable and instructive case; and as such, I have chosen it to begin with.

The first thing to be noted is, the coincident accumulations of wax in the external auditory passages, with obstruction of the Eustachian tubes, complete on the left side, and incomplete on the right—circumstances indicating the previous existence of erythematous inflammation of the external auditory passages, and a catarrhal affection of the mucous membrane of the middle ear.

Though the right and the left auditory passages were equally stopped up with wax, the Eustachian tube of the right side was not completely obstructed; hence, perhaps, the cause of the difference in the power of hearing presented by the two ears before the removal of the wax.

But the circumstance which merits particular notice, and which, according to prevailing notions of the physiology of the ear, was not to have been expected, is the great increase of the hearing distance after the removal of the wax, notwithstanding the existence of obstruction of the Eustachian tubes discovered by the application of the air-douche—obstruction so complete on the left side as not to yield to the air-douche until the third sitting.

The obstruction of the Eustachian tubes appeared to be owing to a glueing together of their walls by thickened mucus. The sounds produced by the entrance of the air indicated a pretty natural state of the cavity of the tympanum; hence the rapid improvement in

hearing consequent on the removal of the wax, even while the Eustachian tubes remained obstructed, and the still further and equally rapid improvement, according as the latter were rendered pervious.

[To be continued.]

FATAL CASES

OF

OBSTRUCTION AND ENORMOUS DISTENSION OF THE BELLY,

Arising from a peculiar Conformation of the Colon.

By Andrew Buchanan, M.D.,

President of the Glasgow Medical Society, and one of the Senior Surgeons to the Glasgow Royal Infirmary.

[Concluded from p. 644.]

[*For the London Medical Gazette.*]

The three cases which I have just narrated exhibit many striking points of resemblance. In all of them the most remarkable symptom was the extreme distension of the abdomen. So great was this distension, as to communicate, both to the unhappy sufferers themselves and to the bystanders, an apprehension of the actual bursting of the belly. On opening the cavity after death, the inflated bowels were propelled with such force through the wound, as rendered extreme caution necessary to avoid injuring them; and on puncturing the bowels themselves, the imprisoned gases rushed forth like the winds from the cave of Æolus, or, to speak a little more plainly, with a violence that would have extinguished a candle held at some distance from the aperture. To those who have not seen this complaint, I cannot convey a more accurate idea of it than by comparing it to the disease which occurs in cattle after eating too much wet clover or other succulent herbaceous food. I have seen several cows affected with this complaint, and in none of them was the swelling greater than in the cases described above.

The next most remarkable circumstance attending these cases was the total obstruction of the bowels; to overcome which the most powerful purgative medicines introduced into the stomach, and all clysters and suppositories, were quite ineffectual. At the same time, the facility with which clysters could be injected into the rectum, as well as the examination of that intestine with the finger, showed the cause of the obstruction to be at some distance from the external orifice.

Another circumstance worthy of remark is, that in all these cases, previous to the occurrence of complete obstruction, the bowels had been long affected with constipation. This was rendered obvious, independently of the report of the patients, by the accumulation of fæces in the bowels, which was so very large, that it must have been a long time in collecting. The same point was still further evinced by the extreme dilatation of the colon, which shewed clearly the existence of a dilating cause, which had been in operation most probably for years before the death of the patient. The fully inflated colon, in its normal state, I have found to be about two and a half inches in diameter: now in the cases above mentioned, it was from five to six inches in diameter; that is, it contained at least four times as much fæces as when quite full in its ordinary state. It was the large intestine alone that was thus dilated; for the small intestines, although fully inflated, were not wider than natural.

Death took place in about twelve or fourteen days from the occurrence of the total obstruction of the bowels. The disease must therefore be regarded as an acute one; and this enables us to distinguish it from certain chronic affections, attended with swelling of the belly and obstruction of the bowels. To what cause is death to be ascribed in such cases? The mere obstruction of the bowels cannot be considered as an adequate cause, since men have been known to live for more than a quarter of a year without any alvine evacuation. Neither was the cause inflammation of the bowels; for although inflammation had obviously been going on in one of the cases mentioned above, it must have been a mere accessary, since there was no inflammation in the other two cases. Can the elevation and immobility of the diaphragm, and the encroachment of the abdominal viscera upon the cavity of the heart and lungs, be regarded as the cause of death? It may probably be an accessory cause; but I am disposed to think that the principal cause of

the patient's death is the excessive distension of the belly, which produces the most excruciating and unremitting pain, and thus gradually exhausts the powers of life. In the analogous disease of cattle, already mentioned, death seems to proceed from the same cause; but it takes place in them much more rapidly —generally in the course of a few hours—owing to the distension being much more sudden, and acting upon tissues not previously habituated to that kind of irritation.

The symptoms enumerated above—the enormous tympanitic swelling of the belly, the complete obstruction of the bowels, the emptiness and large size of the rectum, and the acute course which the disease observes—appear to me to be sufficiently characteristic to enable us to distinguish this disease from all other kinds of tympanitic swelling and constipation.

With respect to the appearances on dissection, in all the cases the colon was the organ principally, and, as was universally thought, primarily affected. It was much longer than usual, and occupied an unwonted situation, lying in front of the small bowels; it was also much enlarged, having an area four times larger than when fully distended in its ordinary condition. These appearances are partly to be referred to primordial conformation, and partly to the long-continued action of a distending cause. That the great length and unusual disposition of the sigmoid flexure must be referred to primordial conformation cannot, I think, be doubted. On the other hand, the great width of the intestine must have been gradually produced, and could not proceed from original formation, as was obvious from the attenuation of its coats and other appearances. Before I was aware that the length of the intestine varied from original conformation, I laboured to persuade myself that the elongation of the colon, as well as its dilatation, might be the effect of long-continued tension. How easily we impose upon ourselves by such reasoning will be seen from a case quoted below, in which the colon, from original formation, was shorter than usual; and the narrator, to explain the difficulty, argues that an increase of width must be necessarily attended with a diminution of length.

In the two cases last narrated, a twist of the colon was supposed to be the cause of the obstruction of the bowels; and this opinion accords with that entertained of all the other cases of this disease which I have found on record. Nevertheless, I much doubt the accuracy of this opinion. When we remove the intestines, to examine them out of the body, we find them very apt to become twisted, knotted, and otherwise variously entangled. Nothing so well illustrates the wisdom of the provision by which such accidents are prevented from taking place within the body. By a twist of the intestine may either be meant, that a single ply of the intestine is twisted round its own axis, or that an angle of the intestine is twisted—that is, that two conterminous plies are twisted round each other. This last kind of twist will be adverted to in reference to a case quoted below. It is certainly possible, but we cannot easily conceive a force acting within the body capable of producing it, and maintaining it when produced. The other kind of twist is that supposed to have existed in all the other cases. I cannot, however, see how it is possible, without an opening in the mesocolon large enough to admit of the intestine revolving on its axis, to produce such a twist as would cause obstruction of the bowels. I can conceive it possible that a violent and irregular action of the muscular fibres could produce a twist, half round, of a particular portion of the intestine; by which I mean, such an oblique folding of that part of the intestine, that a given point of its circumference would be carried from the side on which it naturally lay to the side diametrically opposite; but I cannot conceive the production of a complete twist of the intestine, by which I mean a point of the circumference being carried first to the opposite side, and then completely round to the situation from which it originally set out. I can conceive no force, acting within the body, capable of producing such an effect; and, waiving the question of the existence of an adequate force, I believe the effect to be physically impossible without rupture of the mesocolon. Still further, any twist depending upon irregular action of the muscular fibres could not, as appears to me, be maintained for so long a period as twelve or fourteen days, and still less for whole months. Now I have shown that, in the preceding cases, the bowels bore marks of having been for a long

time in a state of obstruction, although it was only when that obstruction became complete that the disease here under consideration was developed.

In the history of the case first narrated, I have described in what way the proximal convolution of the sigmoid flexure passed in front of and compressed the extremity of the colon, a little above where it terminates in the rectum. Now when we consider the great length and unusual position of the colon in the other two cases, and in similar cases upon record, it appears to me not improbable that the same, or a similar cause of obstruction, may have existed in them also. There is one circumstance with respect to the course of the colon in case first, which may either be explained as proceeding from original conformation, or from subsequent displacement; I mean the sweep to the right which the intestine took after leaving the left ileum, and before ascending to the epigastrium. That this disposition was not the effect of primordial conformation, it is impossible to say; but we might oppose to that opinion the analogy of two cases described above—that of Dr. Hunter, and that observed by myself at the Cholera Hospital—in which the intestine, immediately after leaving the ileum, passed obliquely to the upper region of the belly. If such was also the original conformation in case first, we must suppose that when the fæces began to accumulate in the oblique portion of the colon, they carried it downward by their weight towards the pelvis, as appears to me would naturally take place.

In describing the two cases referred to at the beginning of this essay, I mentioned as a circumstance worthy of remark, that in both of them the colon entered the pelvis on the right side, instead of descending in the usual way over the promontory of the sacrum, and entering it in the centre. The end of the colon was thus removed as far as possible out of the reach of the danger of being compressed, by the proximal portion of the sigmoid flexure passing in front of it. It seemed, therefore, as if nature, retaining in her vagaries the same provident spirit which distinguishes her more uniform operations, had foreseen the danger to life which the unusual formation of the colon would produce, and had taken steps to avert it.

I have been for many years past anxious to have an opportunity of dissecting a cow dead of over-distension of the belly. I entertain little doubt that, on examination, it will be found that the distension of the paunch and adjacent parts of the alimentary tube produces, by its pressure, a mechanical obstacle to the transmission of the excrementitious mass; or, more probably, prevents the act of regurgitation, which, in ruminating animals, is essential to digestion. This appears to me at least to be the most probable explanation of the confinement within the body of the animal—of the wind and excrement with which it is distended almost to bursting. Should this conjecture be verified, there will be a very close analogy between this disease of cattle and the disease of the human subject described above. In both it is the severe tympanitic distension of the belly that occasions death; and the chief difference between them appears to be, that while in cattle the tympany is produced by the sudden ingestion of flatulent substances into the stomach, in the human subject it is produced by the gradual accumulation of them in the colon.

From the account now given of this disease it must be obvious that, in treating it, all purgative medicines are useless, as well as all clysters administered in the ordinary way, so soon as the rectum has been emptied of fæces. The first and great object of our treatment should be to remove, if possible, the mechanical obstacle to the evacuation of the bowels. To facilitate this object the patient should be placed upon his hands and knees, or standing, with his body inclined forward, which has the effect of freeing the end of the colon from the weight of the first turn of the sigma lying over it. An instrument should now be introduced into the intestine, for the purpose of dilating the compressed portion. The instrument which appears to me best adapted for this purpose is the œsophagus tube, armed with a large sponge at the end. The sponge is easily fastened by means of a string attached to it, and passing through the tube; while, by means of the other half of the string running outside the tube, the sponge can be withdrawn when we wish to use the tube as an injecting instrument. In the first instance, however, we are to use it as a probe and dilator. After carrying it up

as high as we may deem necessary, it is to be withdrawn, when, by examining whether or not the sponge be smeared with fæces, we can ascertain whether or not it has passed the compressed portion of the intestine. If it have passed, we should reintroduce it, and by passing and repassing it up and down through the compressed part, we should endeavour if possible to form a free passage, by making an indentation in the soft feculent sac lying, in the position of the body here supposed, below it. Very probably we may succeed in this way in procuring a discharge of fæces, which, without any contraction of the muscular fibres, would be protruded along the passage by the elastic force of the condensed air in the surrounding intestines. If we do not succeed, the tube must be again carried up as far as possible, and the sponge withdrawn, when we must inject tepid water or air, as may be found best to answer the purpose.

Suppose that we do not succeed in procuring any evacuation by these means, or that we succeed only partially, so that the tension remaining undiminished, it is still obvious that death must ensue, is the patient to be abandoned to his fate, or are there still other means of relief in our power? I answer without hesitation, that in the circumstances just supposed we should puncture the bowels. With what view should this operation be put into practice? Not certainly for the evacuation of fæces, which could not be prevented from escaping in part into the peritoneal cavity, and would so cause death. It should be performed, therefore, solely with the view of discharging air from the bowels, which will have the double effect of relieving the sufferings of the patient, and facilitating subsequent attempts to evacuate the fæces through the natural passages. In what situation should the puncture be made? This question reduces itself to the more simple one—in what part of the colon should the puncture be made? for there is no other part of the intestine, in such cases, accessible to puncture. The whole of the sigmoid flexure, and greater part of the left colon, containing only fæces, are excluded from consideration, and the transverse colon is excluded by the uncertainty of its position. The right colon is the part of the intestine most uniform in its seat, and it is likewise distended almost entirely with air. I would therefore recommend puncturing the right colon, about the middle of its course, with a small trocar. On withdrawing the stilette, the confined air should be allowed fully to discharge itself, after which the attempts to evacuate the bowels may be renewed, probably with better success.

Still further to illustrate this disease, I subjoin the history of the only three examples of it which I have been able to find in the records of medicine.

The first occurs in the Sepulchretum Anatomicum of Bonetus—the father of pathological anatomy, and, we may therefore add, of rational medicine. It is extracted from the observations of Tidicæus, who flourished in the end of the sixteenth century; but not having access to the original work, I translate from the Sepulchretum, lib. iii. sect. xiii. p. 197:—

A pregnant female, during the whole period of gestation, and not less during the last month than before, was engaged in needlework without ceasing, from an early hour in the morning till late at night, constantly sitting, as it were, contracted and incurvated upon herself, with her head down, as is usual with those so occupied. Hence she became so costive, that she would have no movement for whole ten, fifteen, or even twenty days. This she esteeming of small consequence, neglected, persevering as long as she was able at her sedentary employment, until, on account of the incredible swelling and pain of her belly (both of which proceeded from the retention of the contents of the bowels), she was no longer able to sit at work. The unhappy woman at length takes to bed, the pain and swelling of the belly, and feeling of anxiety thence arising, increase daily, and to such an extent, that it was obvious to all who saw her that she was in a most dangerous condition. Suppositories and clysters, administered to move the bowels and alleviate pain, availed but little; for whatever was the quantity or quality of the clyster administered, it only remained some time in the rectum (as afterwards appeared), soon coming away, and bringing nothing along with it. Labour at length came on, and the midwife being called, the fœtus, although immature, was nevertheless born alive. But notwithstanding the expulsion of the fœtus the belly did not in the least diminish in size, but was

just the same, that I may not say greater; and the swelling, and resilience, and pain remained, so as to be terrible in appearance to the bystanders, who thought that the belly would burst on account of the excessive tension. It is needless to say more: the patient died, herself requesting that her belly should be opened after death and inspected, which was accordingly done.

The peritoneum being divided, and the omentum lifted up, the colon was the first object that presented itself, removed from its natural situation, and altogether gangrenous. Its colour was red, with a tinge of green (ex caeruleo rubricano), which colour also was visible through the abdominal muscles and skin, extenuated by over-distension. The intestine was distended with mere excrement, and of such a size as to resemble, in that respect, a jug, that would admit a boy's head. All the other higher intestines were, beyond measure, turgid with flatulence: hence the colon, at that part where it descends from the left kidney, had departed from its natural situation, as far as the region of the umbilicus, under which, situated between the tracts of the recti muscles, it was seen descending in the middle of the belly, in a straight line from the stomach. This arose partly from the pressure of the wind contained in the bowels behind it, and partly from the quantity of excrement in itself, which, extending the intestine laterally, rendered it shorter, or caused a contraction in point of length. Hence, without doubt, a twist of the lower part of the colon having taken place, where it is continuous with the rectum, the passage of the egress of fæces and wind, and for the ingress of clysters, was completely shut up. On opening the colon, such a glut of fœtid excrement flowed forth as if you had slain some beast of burden. And, hence it is evident what may be brought upon pregnant women by a too sedentary mode of life and neglect of functions of the bowels, more especially in the last month of gestation.

It is worthy of remark, that the twist of the colon is here spoken of rather, apparently, as a deduction of reason than as a matter of observation. "Hinc absque dubio ipsius coli.....contorsione facta." To me it appears highly probable that the severity of this disease arose from the unusual position of the lower part of the colon. It lay in front of the small bowels, right in the middle of the belly, in which situation it must have been compressed, between the inflated small bowels lying behind it, and the gravid uterus lying throughout its whole course in front of it. This is, therefore, obviously the same disease as before. The symptoms are graphically described, and coincide exactly with those observed in the preceding cases: and further, the disease originates in an abnormal formation of the lower end of the colon. It is, however, a variety of the disease, the colon being shorter than natural instead of being longer. Such a formation could not, so far as I can see, be dangerous but to pregnant females. The fact of the bowels being seen through the parietes of the belly is confirmed by a case given below.

The next case was observed by Dr. Abercrombie, of Edinburgh, in the year 1815, and is recorded by him in the 16th vol. of the Edinburgh Medical and and Surgical Journal, p. 15.

A man, aged 60 (23d April, 1815), was affected with vomiting; pain in the abdomen, which was swelled and tympanitic; obstinate costiveness; pulse 108, and soft; countenance pale and exhausted; pain not increased by pressure. Had been ill a week, during which powerful remedies have been employed, without benefit. Had formerly two attacks of the same kind, one of which continued a week. This man lived in great distress till the 28th, without any remarkable change in his symptoms. The swelling of the abdomen increased gradually, until it resembled that of a woman at the most advanced period of pregnancy; yet, to the last, he could bear pressure upon every part of it. His pulse varied from 108 to 116. His death was sudden: he had been out of bed and dressed the day before, and, on the morning of the day on which he died, he did not appear worse than usual.

On opening the abdomen, a viscus came into view, which appeared to be the stomach, enlarged to three or four times its natural size. On a more accurate examination, this turned out to be the sigmoid flexure of the colon, in such a state of distension that it rose up into the region of the stomach, and filled half the abdomen. The stomach was contracted and healthy. The small intestine was healthy at the upper part; lower down it became distended, and of

a dark colour; at the lower part it was very much distended, with some spots of gangrene. The colon was greatly distended—in some places it was not less than five or six inches in diameter—and terminated in the distended sigmoid flexure already mentioned. The rectum was healthy, and collapsed. The sigmoid flexure was of a dark livid colour, and contained air and thin fœces. What appeared to be the cause of this affection remains to be mentioned. The enlarged sigmoid flexure was found to have taken a remarkable turn upon itself, so that what was naturally the right side of it lay to the left, in contact with the descending colon, and the left or ascending part of it lay on the right. The consequence of this was, that the rectum, as it descended from the former, passed down behind the lower or first turn of the sigmoid flexure, where it first takes the turn from the descending colon: also, the rectum itself, at this part, received a twist, as if half round. Exactly at the point where this twist was, the distension and dark colour of the intestine terminated abruptly, and it became white and collapsed. At this part, however, there was no mechanical obstruction, for the parts were pervious, and, except the twist, perfectly healthy: and farther, it happened, in this singular case, that I had an opportunity of ascertaining the state of them during life. On the 25th, three days before his death, having exhausted all the ordinary means, I was induced to examine the rectum with a large ivory-headed probang, and I found, at a certain depth (which was afterwards found to correspond with the point where the rectum was twisted), a slight obstruction to the passage of the probang; however it passed up with little difficulty, and was withdrawn without any. A piece of the intestine of an animal, tied at the end, was carried up beyond this point, and then strongly distended by injecting water into it. In this distended state it was retained for some time, and then slowly withdrawn; but no discharge followed, though, as I have already mentioned, the distended part contained only air and fluid fœces.

The case is valuable, on account of the singularity of the course of the sigmoid flexure of the colon, and the minuteness with which it is described. It is to this case that allusion is made above, in speaking of the possibility of a twist occurring in an angular portion of intestine, such as is the sigmoid flexure. Here the two conterminous portions of the colon, forming the angle, were turned half round each other; but it is obvious that there is no physical impediment to their making a complete revolution, or even more than one: but what force acting within the body could produce such an effect? The cause of the obstruction seems not to have been the twist, but the compression of the lower end of the colon, between the proximal end of the sigmoid flexure, greatly distended, lying in front of it, and the inflated small bowels lying behind it. This is, therefore, the very same kind of obstruction that occurred in the case first narrated, only arising from a different disposition of parts. The marks of inflammation observed, render it probable that the patient's death was accelerated by that cause, and did not proceed from mere over distension of the belly, which was no larger than that of a woman at the full period of gestation. The author, indeed, has ranked this case among those unconnected with mechanical obstruction of the bowels. He seems, also, to have looked upon the length of the sigmoid flexure of the colon as the effect of distension, and not of original conformation.

The only other case which I have to bring forward occurred in our own city, and was treated by the late Dr. Richard Miller, in the Royal Infirmary, in March 1819. No account of it, so far as I know, has yet been published. The following abstract is taken from the 14th volume of the Manuscript Essays of this Society:—

Michael O'Connor, æt. 47, labourer. Nothing had been passed through his bowels for seven days before his admission in the hospital, and he had been previously subject to constipation. His belly was much swollen and tympanitic. The strongest purgatives and injections were administered without any effect. Dashing cold water upon the feet, and every thing else that could be thought of, was tried, but the bowels could not be moved. Meanwhile, the swelling of the belly gradually increased, and, before the patient died, the integuments and muscles of the abdomen were so much upon the stretch that "the convolutions of several of the

intestines" could be seen through them. Death took place three days after admission to the hospital, and ten from the time of the last alvine discharge.

The stomach was healthy, and quite empty. The small intestines were greatly distended by flatus of an extremely fœtid odour. The colon was also most enormously inflated, particularly the ascending and transverse portions. The left colon, again, and the sigmoid flexure, were literally stuffed to the utmost with fœculent matter, and about six inches in diameter. At the termination of the colon in the rectum, over the promontory of the sacrum, the gut formed a turn on itself, from left to right, as if half twisted round. From the pressure exerted from above, by the "extreme" collection both of excrement and air, this twist was found to form a complete obstruction. The mucous tissue of the intestines, especially of the colon, was of a reddish colour throughout. This appearance did not extend beyond the twist, in the situation of which it was of a much deeper hue than elsewhere. The rectum was empty, and of its natural colour. The peritoneal covering of the bowels was every where natural, as well as the other abdominal viscera. It is to be regretted that nothing more is said of the length and course of the sigmoid flexure of the colon than that "this part of the gut lay more inclined towards the linea alba than in its natural situation;" and at another place, that "the sigmoid flexure was inclined, and actually a little displaced upward."

Glasgow, 110, St. Vincent Street,
June 28, 1839.

PRACTICAL OBSERVATIONS

ON THE

TREATMENT OF STRICTURE OF THE URETHRA.

By Mr. Ure.

[*For the London Medical Gazette.*]

By stricture is meant such a morbid contraction of the urethra in one or more points as impedes or obstructs the flow of urine.

The canal of the urethra has, in the natural state, a diameter of about four lines nearly all its length; but its orifice is usually narrower, being only two-and-a-half or three lines in diameter.

Strictures have been divided into two kinds: the one spasmodic or inflammatory, susceptible of spontaneous resolution; the other chronic, depending on organic change. The latter present every variety of texture, from simple swelling of the mucous membrane to callous thickening consisting of dense gristly-like substance. The most common form is that which resembles the effect of a thread tied round the canal; though by irritation or improper treatment, it will ere long pass into the indurated state just described.

The more prominent local symptoms of the chronic variety are—a slight discharge of matter from the urethra, and a frequent desire to evacuate the urine, which issues in drops, or in a forked, twisted, wiry, or thread-like stream.

As a great proportion of the fatal diseases of the bladder may be traced to this source, I have been induced to draw up the following observations, with the view of pointing attention to certain modes of treatment in which, perhaps, some novelty may be found.

I. *Of dilatation.* — This plan is adapted to the majority of cases, and deserves the preference whenever it is practicable. Its application, however, requires both skill and consideration, much more, indeed, than is commonly supposed.

When a bougie or sound is introduced along the urethra, it determines, independently of any mechanical operation, a distinct physiological effect, characterized in the first instance by a modification of the sensibility, a quickening of the capillary circulation, attended with augmented secretion; but afterwards by subsidence of irritation, and restoration of the healthy condition of the part. The process of methodical dilatation ought to be conducted as gradually and cautiously as possible, commencing with slender gum-elastic or catgut bougies, which will pass through the stricture without producing pain or hæmorrhage. M. Beniqué has devised the following ingenious method of penetrating narrow, and otherwise impervious, strictures*. He employs a curved metallic tube (*b*), whose anterior extremity is a little widened, in order to give in that point adequate thickness

* De la Rétention d'Urine, p. 14.

to the metal. A mandrel (*c*), accurately adjusted, converts the end of the tube into a smooth and rounded sound, presenting no inequalities capable of injuring the passage it has to traverse.

Whenever the stricture offers to the sound such resistance as moderate pressure will not overcome, it is to be there fixed, the contained mandrel withdrawn, and replaced by a bundle of parallel bougies, the number of which will be greater, and the diameter smaller, in proportion to the development of the stricture. As soon as the end of this bundle meets the obstacle, we keep the tube with one hand in the same position, while with the other we endeavour to push gently one of the bougies forwards through the stricture. Should the first fail, we try the rest in succession, till we accomplish the desired object. This done, we draw out the rest of the bundle, and then the metallic tube. The bougies ought to project four or five inches from the external orifice of the tube, to allow freedom of manipulation.

In this way a bougie has been presented to every point of the opposing surface, without subjecting the patient to annoyance from necessity of repetition. When the stricture resembles a cone, whose base is directed towards the meatus, and whose truncated apex gives exit to the urine, M. Beniqué replaces the mandrel, not with a bundle, but with one, or at most two bougies. The chief advantage of this plan is its counteracting the resiliency of the bougie.

The annexed figures represent the application of the instrument.

At first, especially with irritable subjects, the introduction of a bougie should be only momentary, though it may afterwards be prolonged to a few minutes. Having derived the full benefit from the use of the more slender instruments, others should be passed commensurate in size with the progress of dilatation. Bougies that are cylindrical to within about an inch from the extremity destined to enter the bladder answer well; but when the stricture is situate in, or beyond the bend of the urethra, the gum-elastic sounds, *à courbure naturelle*, are preferable, as they are not susceptible of injuring the urethra. The temporary dilatation, performed at suitable intervals, is more beneficial than the permanent, recommended by several eminent surgeons. For when a bougie is too frequently introduced, or too long kept in, the urethra, constantly irritated by the presence of a foreign body, re-acts, and renders nugatory the effects of treatment.

Fig. 1. Fig. 2.

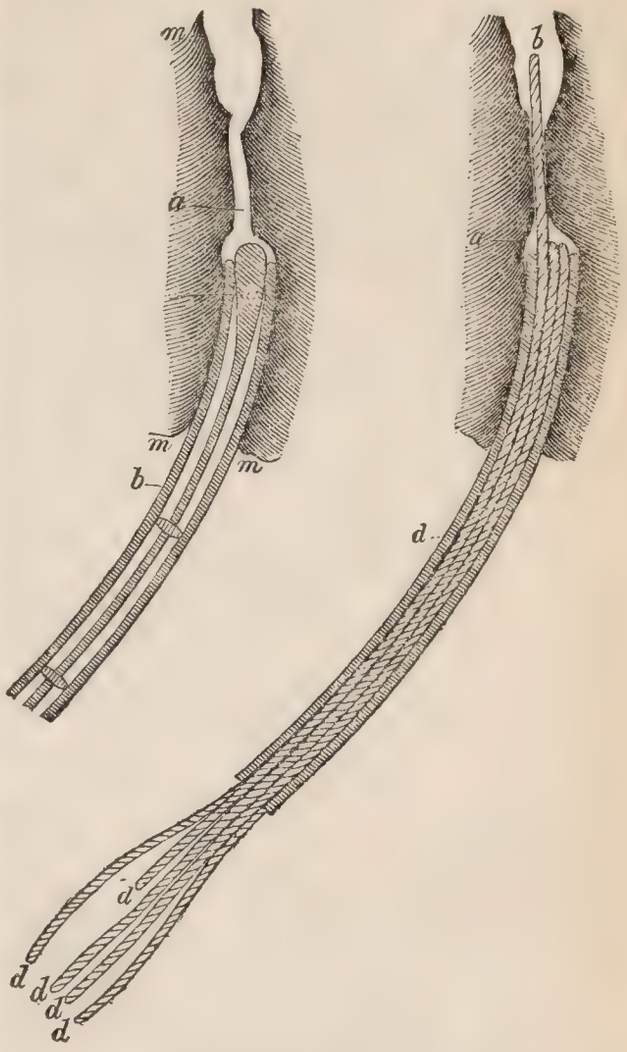


Fig. 1. — *m*, *m*, *m*, Section of a stricture whose orifice, *a*, is not situated in the centre of the canal.
b, A metallic canula, closed by a moveable obturator, *c*.

Fig. 2.—The obturator has been taken out, and replaced with a bundle of small catgut bougies, *d*, *d*, *d*, *d*. Each has been individually advanced in succession; one of them, *b*, having penetrated the stricture, has passed beyond it.

In many instances the persevering use of these instruments will effect a perfect cure in a few weeks; in other cases months will elapse ere the patient derives the wished-for relief. One of the best means of accomplishing the dilatation is by the softened ivory bougies, which I was led to try at the suggestion of Dr. Güterbock, of Berlin. These, consisting of condensed gelatine, are somewhat elastic, and extremely tough, so that there is no risk

of their breaking. They present the essential attributes of a bougie in the highest possible degree. Nothing can exceed their pliancy and lubricity; and the ease with which they glide along the urethra is very remarkable. A field-officer, for whom I have employed them with success in relieving the incipient symptoms of stricture, was quite unconscious of the transit, and expressed astonishment upon my telling him the instrument had reached the bladder. In this instance a highly polished gum-elastic bougie, No. 4, would not pass without creating uneasiness, while an ivory one, two sizes larger, traversed as above described.

There is no more effectual means of subduing the morbid sensibility of the urethra, which is so frequently the sequel of gonorrhœa and the forerunner of stricture, than the use of the soft ivory bougie, introduced daily, or every second day, and withdrawn after the lapse of a few minutes. The instrument should have a volume which will permit it to penetrate with facility, and be introduced with great slowness and gentleness. The effect thus produced is more constantly successful than any other treatment, and if somewhat tardy, is at the same time more lasting. The prevailing practice of thrusting in the rude ill-finished bougies commonly kept in the shops, is extremely pernicious.

Febrile paroxysms resembling ague occasionally follow the passage of instruments into the urethra; these may be prevented by leaving one of the soft-ivory catheters in the bladder. This may be worn for days without the patient being scarcely conscious of its presence. It is, moreover, less prone to become encrusted with urinary deposits than those made of gum-elastic or metal*.

M. Civiale advises, in order to avoid, during our manipulations, the mucous lacunæ, which, he says, for the most part occupy the dorsal surface of the canal, to press the end of the instrument, especially if it be small, to one or other side, or towards the inferior than the superior surface†. This counsel is directly the reverse of what is commonly prescribed.

I need scarcely observe, that the presence of active inflammation contra-indicates all instrumental interference. Stricture depending on this cause must be combated by abstraction of blood, opiates, and the warm bath. Tampering with bougies aggravates the symptoms and tortures the patient.

II. *On the application of nitrate of silver.*—Every surgeon conversant with the treatment of stricture must have occasionally met with cases where mechanical dilatation, however long continued, or skilfully performed, has failed to effect a cure. Many of these may be radically overcome by the judicious application of nitrate of silver. The method of lateral cauterization, as originally proposed by Ducamp, in the year 1822, and the subsequent modifications introduced into this system by M. Lallemand, are objectionable, because they involve the risk of the escharotic acting upon sound parts*. The cauterization supposed to have been performed upon the internal surface of the stricture, observes M. Civiale†, has been only expended upon a spot anterior to it. If the instrument be pushed with force, or made to execute repeated movements of rotation, its extremity injures and perforates the sides of the urethra. Hence the numerous false passages that have been discovered; hence the attacks of hæmorrhage, often sufficiently copious to awaken the utmost anxiety and alarm‡. Besides, the *cuvette*, in many instances, does not slide forwards, and thus the contained nitrate, instead of being concentrated upon the stricture, dissolves, and combines with the mucus, in which the conductor is bathed. The effect is then null, or nearly so; for while the greater portion of the solution is lodged in the tube, the remainder comes in contact with merely the anterior part of the urethra. The

* These instruments are prepared by removing the earthy constituents of ivory. Before being used they ought to be immersed for several hours in water, and well smeared over with cerate. They are not expensive.

† Traité sur les Maladies des Organes Genito-urianaires, p. 200.

* Leroy, in Bulletin de l'Académie Royale de Médecine, tom. iii. p. 256.

† Op. cit. p. 234.

‡ At page 36 of M Lallemand's work, entitled "Observations sur les Maladies des Organes Genito-urinaires," we find a case recorded, in which "acute pain, accompanied with frequent calls to void urine, hæmorrhage, and constriction of the sphincters of the anus," followed the introduction of his port-caustic; and in the Sixth Observation, that "urgent desire to evacuate the contents of the bladder, with complete retention, prolonged and violent rigors, and acute pain about the bladder and kidneys" ensued, in consequence of cauterizing a healthy part of the urethra.

practitioner in this way, contrary to his intention, operates from before backwards. Hence the disease is often materially aggravated and rendered incurable; the frequent repetition of the practice giving rise to an irregularly thickened state of the parietes of the canal, sometimes pervading the greater part of its extent. This is attended with a troublesome discharge of matter; and paroxysms of agonizing pain referred to the neck of the bladder, the prostate gland, the spermatic cord, or the testicles, whereby the patient is rendered miserable for the remainder of his days.

To obviate these serious objections various improvements have been suggested in the construction of instruments, among which we would enumerate those of M. Pasquier and of M. Leroy d'Etiolles, as being well adapted for effecting the application with safety and precision.

As it is essential, in the first instance, to obtain a correct knowledge of the nature, extent, and situation of the stricture, I shall describe the method, *par empreinte*, as now generally practised in Paris*. A yellow wax bougie, having an equivalent volume to the width of the stricture (as nearly as can be estimated), is to be passed along the urethra into the bladder. It should be grasped by the stricture, but not forcibly. In general these soft bougies can be introduced with considerable facility. In the event of failure, a slight preliminary dilatation may be procured by means of the slender gum-elastic bougies formerly mentioned. Having reached its proper destination, the soft bougie is left *in sitû* for the space of ten or fifteen minutes, after which it is withdrawn by a quick movement. The part which had been grasped by the stricture will be found to present a corresponding mark, amounting sometimes to a notch, sometimes to a mere dimple, scarcely visible to the naked eye, but which may be detected by gliding the finger along its surface. According to the form and situation of this impression, we are enabled to determine the dimensions and direction of the stricture, and also its distance from the orifice of the urethra. Nor are we liable to receive a fallacious indentation from the natural curve of the urethra under the pubis, from lacunæ or false passages, or to mistake a spasmodic for an organic stricture, as has occasionally happened with other emplastic instruments.

M. Leroy employs for the exploration graduated bougies of gum-elastic, terminating in a round knob, on the principle of Sir C. Bell. These may enable us to recognize well the valvular folds of the mucous membrane; but when the lateral projection is but a fraction of the transverse area of the tube, and the stricture terminates posteriorly in an elongated cone, the indications will be less precise and more difficult of attainment.

After this preliminary investigation, we may, provided the stricture has an area of a line or a line and a half, introduce the port-caustic with its platinum *cuvette*, corresponding in length to that of the stricture. It is necessary in every case that there should be a partial dilatation beforehand. When we are satisfied that the tube has arrived at the obstacle, the *cuvette* is to be slowly protruded and then fixed by means of the screw, with the nitrate of silver directed to the affected part; where the stricture is annular, it is, on the contrary, to be left free, and made to revolve upon its axis. After this operation has lasted a minute, the *cuvette* is to be drawn back into its sheath, which, with the urethra, is to be depressed before removal. By this manœuvre the mucus, should it contain any portion of dissolved nitrate, will flow into the tube; thus all risk of its irritating the healthy surface is prevented. The application so conducted is productive of little or no uneasiness, not more than follows the introduction of an ordinary bougie.

The annexed figure (3) represents the two ends of the instrument in question: *c*, *d*, are the extremities of the elastic tube; *b*, the head of platinum or gold, fastened by a pin; *e*, the metallic tube attached to the other end of the elastic one; *f*, the screw passing through both tubes; *a*, the platinum spoon or *cuvette* upon its thin elastic stem, which plays freely within the tube *c*, *d*, and whose other end *g* is continued into *h*, a quadrilateral rod upon which the screw *f* can be made to press.

The instrument recommended by Mons. Leroy for the retrograde application, consists of a curved tube, *a*, *a*, fig. 4, made of silver, or of gum elastic,

* This method is by no means new, a description of it being given in Lemonnier's Traité sur la Maladie Vénérienne, printed in 1689.

Fig. 3.

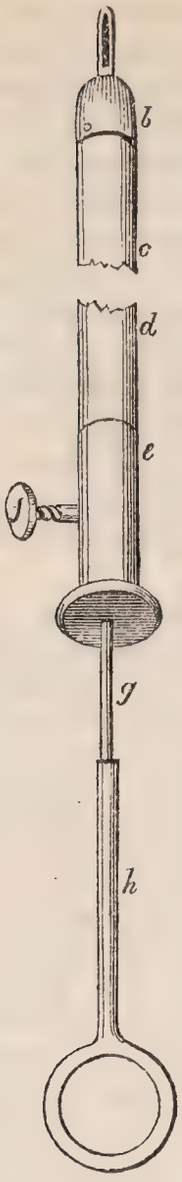
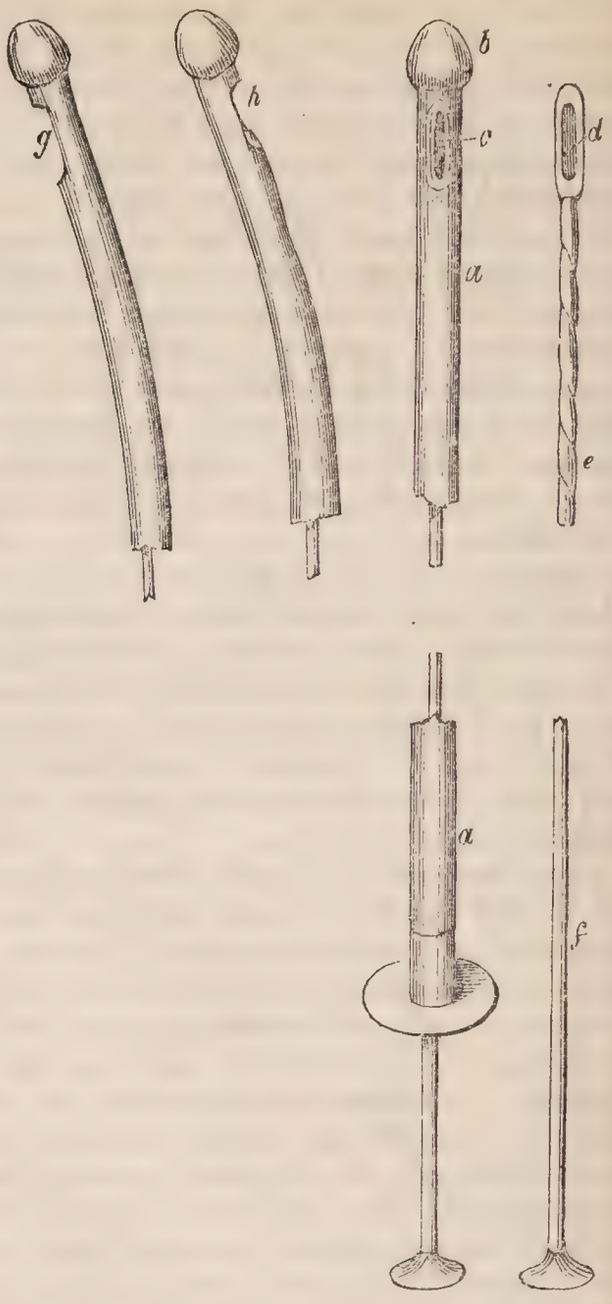


Fig. 4.



surmounted like his exploratory bougies, with a small knob *b*, close to which is an elongated aperture, *c*, about half an inch in length, for the purpose of allowing the contents of the *cuvette* to come in contact with the stricture. The *cuvette*, *d*, which is nearly half an inch long, is attached by one extremity to a silver rod, *e*, *f*, about ten inches long, whereof three and a half inches, *e*, is spiral, in order to impart flexibility and the power of rotation in a curve. The above part, instead of being spiral, is sometimes chain-work. A silver canula is preferable to one of gum-elastic, as the *cuvette* is apt to tilt out of the eye of the latter, and do mischief. The instrument is to be introduced beyond the most remote stricture, and then partially withdrawn, until the knob, *b*, is felt to hitch against the distant margin. The *cuvette* containing the fused nitrate of silver, inserted with its convex metallic surface to the notch, is then to be turned round till the nitrate faces the stricture; it is to be thus retained for a minute, and straightway restored to its former position, and removed with its canula. The operator must be provided with two separate canulas, one having a superior, the other an inferior aperture, to suit the direction of the stricture. In every case we ought to be quite certain that we have passed the extreme obstacle, before the nitrate of silver is permitted to act.

Immediately after the application has been made, the patient voids urine better than before; but on the day following there sometimes ensues a degree of retention, from closure of the canal by a plug of coagulated mucus. This is easily removed by injecting a little tepid water from a gum-elastic syringe, furnished with a long, narrow, softened ivory tube. The introduction of a bougie for this purpose is both painful and hazardous. About the second or third day, some sloughy shreds are voided along with the urine. We have now to repeat the passing of the soft bougie, to ascertain whether the stricture be completely overcome; persevering in

the use of the nitrate of silver till no trace is left upon the wax. We may even determine this by the relative facility with which an ivory bougie passes along; and if so, we spare the patient the annoyance which the wax may cause while traversing the under part of the mucous membrane. It is seldom that a single application suffices; in the majority of cases, it must be renewed at intervals of four or five days for some weeks, until a No. 6 bougie will pass. But we must be guided by the result, discontinuing the practice whenever we perceive that the patient ceases to derive benefit; otherwise its protracted use cannot fail to do harm *.

As a general rule, the application ought to be confined to cases in which the stricture is of limited extent. Where there is general callous thickening, it is inappropriate. It is not intended that the nitrate of silver should destroy the stricture, as may happen; it merely induces some change in the vital actions of the part, which is followed by relaxation of the narrowed portion. No satisfactory explanation has yet been offered of its *modus operandi.*

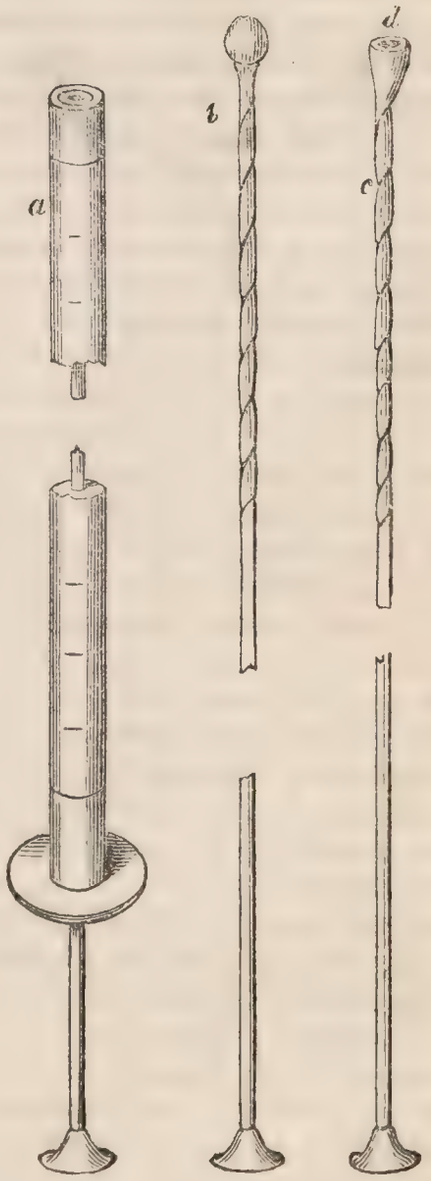
We usually remark, soon after its employment, a mucous or purulent discharge, which commonly subsides, of its own accord, in a few days. In some rare instances, the gleet which had previously accompanied the stricture becomes greatly increased in quantity, and continues so for a considerable time. More generally, however, chronic discharges of long standing disappear entirely upon its removal.

To complete the cure, ivory bougies, or gum-elastic sounds, having the natural curvature, ought for some time to be daily introduced for a few minutes, progressively augmenting in size till we come to a diameter of $2\frac{1}{2}$ or 3 lines. By and by they may be passed twice a week, and ultimately every eight or ten days. The subsequent dilatation is always necessary to protect against a relapse.

There is another form of stricture, in which the urine may percolate through the obstacle, while even capillary bougies cannot be introduced, or, if so, but partially, seeming to penetrate a spongy mass, and give rise to hæmorrhage. Here we must have recourse to the *direct* application of nitrate of silver, on the principle recommended by Ambrose Paré, and afterwards adopted by Mr. Hunter and his follower, Sir Everard Home, but practised in a much improved manner *.

The instrument I have found best suited for this purpose was first shewn to me by M. Leroy d'Etiolles, along with several other ingenious contrivances for the treatment of urethral diseases. It does not differ materially from that of M. Labat. It consists of a flexible canula (*a*, fig. 5), graduated into

Fig. 5.



inches and fractions of an inch, surmounted by a platinum ferrule, and of two silver rods, partly spiral, whereof one (*b*) terminates in an oblong knob,

* For ulceration of the mucous membrane of the urethra, characterized by pain experienced in particular points of the canal during the passage of an instrument or the evacuation of urine, the momentary application of nitrate of silver is a most valuable remedy. I succeeded in curing, by two applications, an intractable case of this kind, where the patient had been long needlessly tormented with the introduction of bougies, by a surgeon of repute.

* This method is also adapted to cases of very thin valvular stricture, almost membraniform, which the sound or bougie passes with a slight jerk, and beyond which the resistance ceases entirely to be felt.

while to the other (*c*) is attached a little platinum cup (*d*), for holding the fused nitrate of silver. The cup cannot pass beyond the rim of the ferrule. The chief improvement in this instrument is the adaptation of the spiral.

It is introduced containing the rod (*b*), whereby the orifice is closed so as to present a hemispherical surface. As soon as it has arrived at the stricture, the rod is withdrawn, to make way for the capsule with the nitrate of silver. While this is being done, the end of the canula must be kept steadily against the stricture. The nitrate of silver now in contact with the part, is to remain from 30 to 60 seconds, and is then to be removed; and after depressing the urethra for a reason formerly assigned, the canula may be taken out. To ensure success, it is of importance that the latter be large enough to fill the canal.

When thus cautiously applied, we have no reason to dread the disastrous consequences which have attended its indiscriminate and injudicious employment according to the old method. With that dangerous weapon, the armed bougie, false passages, hæmorrhage, intense irritation, severe paroxysms of fever, and retention of urine, have been repeatedly produced; but here the action of the remedy is wholly confined to the affected part, and is thus exempt from peril or uncertainty. After having submitted it to the test of ample experience, I can confidently affirm that I have never known it occasion ought beyond a little heat in the part, and a slight discharge from the urethra, sometimes tinged with blood. Here, as in every other instance, the first effects produced are a change in the sensibility, and an augmentation of the capillary circulation, followed by a softening down of the texture to which the agent has been directed; and so long as it is limited to modify the vital properties, the results are favourable. The application may be repeated every five days.

The following case is adduced, in corroboration of the practice:—On the 29th of March last, I was requested by Mr. Hering, a gentleman practising in Foley Place, to see Mr. D——, labouring under obstinate stricture. This patient is 46 years of age. He has had gonorrhœa twice or thrice; the last time was in the year 1830. Twelve months prior to that date, he was obliged, on returning from a hot climate, to submit to treatment for some obstruction of the urinary passages. For two or three years back he has been subject to irritation of the urethra, accompanied with a gleety discharge. When I saw him, he complained of frequent calls to make water, which he voided in a forked, twisted, and small stream. On endeavouring to introduce a moderate-sized bougie, it was arrested by a spongy substance, and gave rise to pain and hæmorrhage. I may observe, that repeated attempts had been made to effect a cure by means of bougies previously, but in vain. On more minute examination, I found the stricture was situated about five inches and a half from the external meatus; there was, in addition, a slight narrowing, about three inches and a half from the same point. Having determined on the antero-posterior application of the nitrate of silver, I commenced at once with the prinipal stricture, in the manner above described, renewing the practice at suitable intervals for a few weeks. During this period, the patient was so little incommoded as to be able to return home to the country each time, and pursue his ordinary avocations. On the 20th of May, I passed with ease a No. 4 gum-elastic bougie; and, in the course of other eight days, a No. 8 gum-elastic sound, *à courbure naturelle*, having previously discontinued the use of the nitrate of silver. Since then I have occasionally introduced, and always with the utmost facility, the soft ivory bougies, both strictures having quite disappeared.

The most efficient means of relieving the severer forms of retention of urine, connected with stricture, I propose to consider in another paper.

13, Charlotte Street,
Bedford Square, July 17, 1839.

REMARKS
ON
"THE PHARMACOPŒIA OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH, 1839."

By Richard Phillips, Esq. F.R.S. &c.

[*For the London Medical Gazette.*]

I have participated in what I believe to have been the anxiety of the medical and chemical world for the appearance of this work. It has been in prepara-

tion for no inconsiderable time, and common report has attributed its progress and completion to the labours of Dr. Christison. That this opinion has been correctly formed is confirmed by the following passage in the last number of the *Edinburgh Medical and Surgical Journal*. "Whilst we give the Edinburgh College of Physicians full credit for the excellence of the work which bears their name, it would be unfair in us, possessing the local information which we do, not to express our conviction that a great part of its value is due to the labours and exertions of its accomplished President, Dr. Christison. It is, indeed, fitting that the President of a College of Physicians should be a man of scientific eminence; and especially that, when the body over which he presides publishes a new Pharmacopœia, he should be both competent and ready to take a principal share in its formation. We are certain that we do not in any respect depreciate the merits of other members of the Edinburgh Pharmacopœia Committee, when we say, that we believe the greater part of its excellence is owing to Dr. Christison's scientific knowledge, laborious manipulations, and indefatigable research into the books of British and foreign pharmacologists."

Were it not perfectly superfluous, I would willingly add my testimony to the great scientific acquirements of Dr. Christison: his name is almost sufficient to set criticism at defiance; but, as chemical facts do not differ from others in being "stubborn things," I shall freely and fully state what I believe to be facts respecting this pharmacopœia. I shall do so plainly, but, I trust, without giving offence either to the Royal College of Physicians as a body, or to their learned and scientific President as an individual.

The first article that requires notice is the second in the Materia Medica; it is

Acetum Britannicum. *British vinegar.*—Of this it is stated that its density is from 1006 to 1012. "In four fluid ounces complete precipitation takes place with 30 minims of solution of nitrate of baryta." This means, I presume, that the sulphuric acid which vinegar contains is perfectly thrown down by the assigned quantity of the barytic solution. Vinegar-makers are permitted to add to vinegar 1-1000th of its weight of sulphuric acid; and it can hardly be supposed that they do not avail themselves of this privilege to its full extent. Let us, therefore, see what quantity of sulphuric acid four fluid ounces may contain. The density of vinegar being taken at 1006, four fluid ounces weigh 1760 grains, and the sulphuric acid which it contains amounts to 1·76 grain; as 49 of this acid decompose 130 of nitrate of barytes, 1·76 will require 4·66 for that purpose.

The College test solution of nitrate of barytes is prepared by dissolving 40 grains of the salt in 800 grains of water; and assuming, what may be admitted without sensible error, that the bulk of the solution does not materially differ from that of the water, the question to be determined is, how much nitrate of barytes is contained in 30 minims of the test solution.

A fluidounce, or 437·5 grains of water = 480 minims, 800, therefore, = 877, holding 40 grains of the barytic salt in solution; consequently, 30 minims contain 1·36 grain only, instead of 4·66 grains, as required; so that more than 100 minims of the solution are necessary to produce an effect, which, according to the College, is complete with 30.

Being unwilling to trust entirely to calculation, especially when experiment is so easy as in the present case, I procured some vinegar from a source which I knew to be respectable: its density was 1019, which exceeds the greater specific gravity stated by the College. With four fluidounces of this I mixed 30 minims of the test barytic solution; the precipitate formed was separated by filtration, and 60 minims more were added to the clear vinegar: this occasioned a much more abundant precipitation than the 30 minims, and after again filtering, nitrate of barytes being added, it occasioned the formation of more sulphate.

Four fluidounces of this vinegar gave a quantity of sulphate of barytes which indicated an excess of 0·3 of a grain of sulphuric acid: this may be attributed to the error of experimenting, and the sulphates contained in the water used in preparing the vinegar.

I found, also, that the saturating power of this vinegar is accurately stated in the London Pharmacopœia: one fluid ounce saturated a drachm of crystals of carbonate of soda.

Acetum Destillatum. *Distilled vinegar.* "Density 1005." "One hundred minims neutralize 8 grains of crystallized carbonate of soda." One hundred minims of a liquid whose density is 1005 weigh 91·6 grains, and this quantity of distilled vinegar saturates 8 grains of carbonate of soda; 100 therefore = 8·7 grains. Now, 144 of crystals of carbonate of soda = 51 real acetic acid; and consequently 8·7 = 3·07, which is the per centage of acetic acid contained in the distilled vinegar: this quantity amounts to only about 3-5ths of that which the undistilled vinegar contains; and no inconsiderable portion of the loss of 2-5ths is occasioned by the College needlessly directing only 6-8ths of the vinegar to be distilled.

Acetum Gallicum. *French vinegar.* The introduction of this seems uncalled for. It appears, however, from the College statement, that the quantity of sulphuric acid added to vinegar in France is precisely the same as that in England; for of the foreign article it is also stated, that "in four fluidounces complete precipitation takes place with 30 minims of solution of nitrate of baryta." Having obtained some French vinegar, I found its density was 1016; I added the proper quantity of the test solution to a portion of it, and I certainly found that sulphate of barytes was precipitated. After filtering the vinegar, I added dilute sulphuric acid to it, which occasioned the formation of much more sulphate than had been occasioned by the sulphuric acid in the vinegar.

To determine, within certain limits, how little sulphuric acid this vinegar actually contained, I added the test in the proportion of 15, instead of 30 minims, and I found, when the vinegar had been filtered, not only that nitrate of barytes occasioned no precipitation in it, but that dilute sulphuric acid did. It is, therefore, evident that the vinegar did not contain half enough sulphuric acid to occasion "complete precipitation" of the nitrate of barytes. Of the French vinegar which I employed, 100 minims saturated nearly 14 grains of crystallized carbonate of soda, while an equal quantity of English vinegar, exclusive of the sulphuric acid which it contains, saturated little more than 12 grains; consequently the French is stronger than the English vinegar by nearly one-sixth.

Acidum Aceticum. *Acetic Acid.* "Density not above 1068·5." "One hundred minims neutralize at least 216 grains of carbonate of soda;" meaning, I presume, as before, in the state of crystals: let us, then, inquire how much real acid per cent. it contains. One hundred minims weigh nearly 98 grains, and these saturate 216 grains of carbonate of soda; 100 therefore = 220 grains of the carbonate, and as 144 = 51 of acetic acid, 220 = 78, which, according to the College, must be the quantity of real acid per cent. in acid of 1068·5.

From Dr. Thomson's statements it appears, that acetic acid, of density 1068·2, contains only 53 per cent. of real acid: in order, therefore, to determine whether the enormous difference of nearly 25 per cent. originates with the College or Dr. Thomson, I prepared a quantity of acetic acid of density 1068·5 by diluting some glacial acid, with which I had been favoured by Mr. Morson. 100 minims were not saturated by 140 grs. of carbonate of soda, but super-saturated by 150. Had this quantity of carbonate been neutralized, the acid would have contained rather more than 53 per cent. of real, which agrees (very nearly) with Dr. Thomson's statement, and of course differs from that of the College to the amount of about 25 per cent., as already mentioned.

It is further observed, in the Pharmacopœia, that when acetic acid of 1068·5 has 20 per cent. of water added to it, the density is increased. By referring to Dr. Thomson's table, the probable inaccuracy of this statement will be apparent. He mentions that acid of density 1068·2 consists of 1 atom acid, 51 and 5 atoms water, 45 = 96; and when 2 atoms of water, = 18, are added, the density of the acid is so far from being increased, that it is diminished from 1068·2 to 1063·49. On this occasion, experiment is neither tedious nor difficult, and I therefore made it, and I found that a mixture of 5 parts by weight of acid of 1068·2 with 1 part of water gave a dilute acid of 1062·8; the density being diminished, and nearly in the ratio stated by Dr. Thomson.

I have yet to notice a remarkable discrepancy in the College statements respecting the density of their acetic acid. In the Materia Medica, p. 2, we are informed that its density is "not above 1068·2," whereas at p. 44, under the head of Acids, we find that "the density

should be not above 1065." The difference in figures seems trifling, but that is by no means the case with the strength of the acids of these densities. When I have had time to prepare the acid according to the College process, I shall be able to learn which of these statements is correct, if either be correct. In the meantime I have examined the relative strengths of acid of these densities. I find that 100 minims, = 97 grs. of 1065·3, saturate 232 grs. of carbonate of soda in crystals; it is therefore composed nearly of 1 equivalent of acid, 51 + 1 equivalent of water, 9 = 60. Now I have mentioned that 100 minims of 1068·5 are incapable of saturating 150 grs. of carbonate of soda, consequently these acids, which the College seem to consider of equal strength, differ as greatly in this respect as 232 from 150, but it must be admitted that what the College have stated, though erroneously, of acid of 1068·5 is as nearly true of that of 1065·3 as 216 to 232.

I must confess that I have been greatly surprised at the errors and contradictions which I have now exhibited. To recapitulate, they are as follows:— Not one-third enough nitrate of barytes is ordered to precipitate British vinegar, while more than twice the requisite quantity is ordered for French vinegar; the density of acetic acid is first stated to be 1068·5, and its saturating power 216, when in fact it is below 150; the density of acetic acid is afterwards stated to be 1065, the saturating power of which is about 232: it is asserted, that when acid of density 1068·5 is mixed with 20 per cent. of water, that its density is increased, whereas it is diminished to 1062·8.

Acidum Benzoicum. *Benzoic Acid.* The only properties by which this acid is characterized are that it is "colourless; sublimed entirely by heat." Now these qualities belong to the following preparations:—

Ammoniæ carbonas. — Colourless; "heat sublimes it entirely."

Arsenicum album.—Colourless; "entirely sublimed by heat."

Sublimatus corrosivus.—Colourless; "sublimes entirely by heat."

Hydrargyrum. — Colourless; "entirely sublimes by heat."

Calomelas.—Colourless; "heat sublimes it without any residue."

Acidum Muriaticum. *Hydrochloric Acid of commerce.* "Density at least 1180." I have never met with it so strong, and suspect that any thus dense must contain a large quantity of sulphuric acid. "It always contains a little sulphuric acid, oxide of iron, chlorine, and bromine." I should like to see the evidence of its containing the last-mentioned element. Why is so usual an impurity as sulphurous acid omitted?

Acidum Pyroligneum. "*Diluted acetic acid obtained by the destructive distillation of wood.*" If this acid be, as admitted, acetic acid, for what purpose is the name of pyroligneous acid now introduced? It is merely making a distinction without a difference.

Acidum Sulphuricum. *Sulphuric Acid of commerce.* "Density 1840, or near it." I have never found it less than 1844. "When diluted with its own volume of water, only a scanty muddiness arises, and no orange fumes escape." The muddiness that *arises* is, I presume, sulphate of lead, which is *thrown down.*

Acidum Tartaricum. *Tartaric Acid.* The formula for preparing this acid was, I presume, intended to be similar to that of the London Pharmacopœia; but, by an oversight of no small moment, the process has been deteriorated. The London College directs 7 pints and 17 fluidounces of diluted sulphuric acid to decompose a given quantity of tartrate of lime, and the Edinburgh College orders precisely the same quantity. They have, however, forgotten that their diluted sulphuric acid is different from that of the London Pharmacopœia, although the directions for preparing it immediately precede those for the tartaric acid, and in the very same page.

The London diluted sulphuric acid is prepared by mixing 1½ fluidounces of the strong acid with 14½ fluidounces of water; while the Edinburgh Pharmacopœia directs 1 fluidounce of acid to 13 fluidounces of water: their comparative strengths by weight are about as 100 to 78, and by volume the difference is still greater; the Edinburgh College should have directed more than 10 pints of dilute sulphuric acid, instead of less than eight.

Under the head of *Acidum Citricum*, a corresponding error is committed, and with an appearance of precision that renders the mistake more remarkable. In preparing this acid the London College directs four pints of lemon-juice, four and a half ounces of chalk, and twenty-

seven fluidounces and a half of diluted sulphuric acid: the Edinburgh Pharmacopœia orders the same quantities, except that the diluted sulphuric acid is reduced by half an ounce. "Diluted sulphuric acid, twenty-seven fluidounces, or in proportion to the chalk required." So that the sulphuric acid is reduced by half an ounce, when it ought to have been increased by nearly eight ounces.

Ammoniæ carbonas. *Sesquicarbonate of ammonia.* "Heat sublimes it entirely: a solution in water, when treated with nitric acid in excess, does not precipitate with solution of nitrate of baryta or silver." Now, these are not the peculiar properties of sesquicarbonate of ammonia; they belong equally to the carbonate and bicarbonate.

Ammoniæ Spiritus. *Solution of ammonia in rectified spirit.* "It does not effervesce with muriatic acid." This is a mistake, for effervescence does occur, as in liquor ammoniæ, if the acid be strong.

[To be continued.]

CLIMATE AND DISEASES OF EGYPT.

The increased facilities of travelling, and the well-directed energy of the present ruler of Egypt, will probably multiply the number of visitors of a land so rich in interest. Some of our readers will, of course, be in the list, either travelling for their own gratification, or as the medical attendants of invalids who hope for relief under the bright sky of the Delta. Hence they will thank us for such information as we have been able to cull for them from two books which have fallen into our hands. The one is a little work by Dr. Morpurgo, an Italian physician, entitled, "*Considerazioni mediche sull' Egitto,*" printed at Smyrna, in 1831; the other is the recent work by Dr. Cumming, called "Notes of a Wanderer." His book has naturally the advantage of treating of English wants, and supplying answers to English questions; while Dr. Morpurgo's brief essay is the composition of one who had practised in Egypt as an hospital physician, as well as in private families.

Doubting how he ought to treat his patients, he divided his inflammatory cases in the Alexandria hospital into two classes; the one he treated with bleeding, repose, low diet, mucilaginous drinks, and clysters; the other with bleeding and contrastimulants. For inflammation of the thoracic viscera he employed, by preference, antimonials or digitalis; for that of the intestines or liver, mercurials, or cherry-laurel water, or depressing narcotics; for inflammations of the vessels, sulphate of iron or digitalis; for phrenitis, cherry-laurel water or extract of hyoscyamus. The doses were those recommended by the followers of the contrastimulant theory. Antimonials, under whatever form they were given, very frequently produced vomiting; and Dr. Morpurgo was obliged to abandon their use, as he saw that they augmented the irritation of the diseased organs. He never obtained any advantage from the extract of hyoscyamus, and was twice obliged to combat the first symptoms of poisoning. In one case, a child, aged three, being attacked with diarrhœa, he gave the extract in the dose of a quarter of a grain; in the other, the patient was a man of forty, suffering from chronic bronchitis, and the symptoms came on after taking half a grain.

Of the patients treated merely with detraction of blood, low diet, and mucilaginous drinks, he lost five or seven per cent., according as it was winter or summer.

Of those who were treated with contrastimulants, seven or nine per cent. died when antimonials, drastics, and narcotics, were among the remedies; when these were not used, the mortality was the same as when medicines were not given. Dr. Morpurgo has found emetics and purgatives generally injurious in Egypt, and rarely useful. He is so convinced of the inutility of internal remedies, in the treatment of inflammation, that when suffering from a dangerous inflammation of the mucous membranes, at Alexandria, in the beginning of 1831, he did not allow his physicians to give him any medicine. It was resolved, in consultation, to bleed him; one of the physicians proposed, in addition, to administer some kermes mineral, but this Dr. Morpurgo refused. After the bleeding, a copious perspiration broke out, which was critical. If he had taken the kermes, he says, a

Te Deum would have been dedicated to it on the appearance of the perspiration.

Climate.—Dr. Morpurgo informs us that the air is generally pure, but that the temperature is very variable in those parts of Egypt which are washed by the sea, or inundated by the Nile and its canals; but that it is almost constant in those which are in or near the Desert The thermometer and the hygrometer frequently vary several times a-day at Alexandria. In Rossetto, in Damiata, and generally speaking in the Delta, and on the banks of the Nile, the air is full of moisture. In Cairo, and in the interior, neither the thermometer nor the hygrometer is subject to sudden changes. In Alexandria, in the hottest part of the summer, the thermometer seldom rises higher than 86¼° of Fahrenheit; in Cairo and other places, it rises to 99½°, 101¾°, 104°, and even 106¼° (30°, 31°, 32°, and 33° of Réaumur).

Dr. Morpurgo does not think the wind called the *Khamsin* quite so insupportable as travellers assert. It makes the sky cloudy, indeed, and the air hot; but he says, very coolly, that he has never found it raise the thermometer in the shade, at Cairo, above 33° of Réaumur—*i. e.* 106¼° of Fahrenheit.

Dr. Cumming, in his journal under the date of March 6th, 1837, says that the Khamsin has been blowing for four days, bringing clouds of dust, and raising the thermometer from 64° to 87°; at midnight it was 78°.

The following temperatures are, we believe, all the rest that are mentioned in Dr. Cumming's book:—

At Alexandria, on the 31st of October, 1836, at 10 P.M., the thermometer was at 76°. On the 25th of November, at Cairo, it fell in the morning to 48°.

In going up the Nile, he suffered more from cold than heat. Under the date of February 11th and 12th, he says that the thermometer has not been lower than 50°; on the 17th it was 52°. The blinds of his boat were rickety, and the vessel in general rather unsound, so that he could not keep himself warm in bed under six covers.

Diseases.—The diseases of Egypt are mostly inflammatory. Indeed, Dr. Morpurgo goes so far as to say, that among thousands of patients whom he has seen and treated in Cairo and Alexandria, whether civil or military, there was not a single case that could not be classed among sthenic ones. Some of them required vigorous antiphlogistic treatment; in others, low diet, repose, and the avoidance of every impression that might have been too exciting, were sufficient; but he never met with a single case that required stimulating treatment.

Ophthalmia.—This is very common and very violent in Egypt. One of the great causes of its frequency among the lower orders, he believes to be the bad air of their dwelling-places, as well as in the streets. The experiments of Fleurens, showing the effect of bad air on animals, are very instructive. He took fowls and shut them up in low, moist, and ill-ventilated places. After some time he killed them, and found their lungs full of tubercles, and the cornea covered with ulcers. In treating this disease, Dr. Morpurgo never derived any advantage from blisters or mercurials, nor from bathing the eye with cherry-laurel water or narcotics. General and local bleeding, and bathing the eyes with tepid water, were always beneficial. Bathing the eye with a solution of zinc was useful towards the end of the disease, when the conjunctiva was rather congested than inflamed; and sometimes succeeded in checking the ophthalmia at its commencement, chiefly when it had been caused by the sudden action of light. Blood may be abstracted at a very early age; he has often applied ten or twelve leeches to the temples of children one or two years old, and thus arrested the course of a dangerous ophthalmia. He says he was induced to try mercurials, because the physicians of Belgium and Holland told him they had used them with benefit, giving them till salivation was produced. In order to see whether ophthalmia was contagious, Dr. Morpurgo took purulent matter discharged from the eyes of several patients, and put it into the sound eyes of others, without ever producing ophthalmia.

We must add, as our commentary, that these experiments were most scandalous.

Enteritis and Hepatitis.—Under the former of these heads Dr. Morpurgo includes dysentery, as it is essentially an inflammation of the intestinal tube.

If the physician is called in time to a case of enteritis, he is to prescribe re-

pose, one or two bleedings, a considerable number of leeches to the abdomen and anus, mucilaginous drinks, fomentations to the abdomen, and emollient clysters, provided the rectum is not in too irritable a state. When the disease is well treated, it is generally cured in about nine or ten days.

Sometimes, however, in epidemic enteritis, accompanied by dysentery, the physician cannot hope to arrest the progress of the disease, but only to moderate its course. Having begun by some abstraction of blood, he must prescribe a general bath (provided the patient is strong enough to bear it), low diet, repose, fomentations, and unirritating drinks, and will leave the rest to nature; for if he persevered in taking away blood, he would kill the patient. It often happens that dysentery, though mild at first, becomes serious by the ill-timed administration of purgatives, or from the use of beans cooked in oil, which the Arabs take by way of medicine. Yet from time to time cases are narrated of dysentery which have been cured under the use of drastics; indeed, a philosopher has said, *il y a des malades que les médecins ne peuvent pas tuer*.

Chronic gastritis, hepatitis, and congestion in the system of the vena portæ, are to be treated after the method commonly described by authors.

The other diseases discussed by Dr. Morpurgo are—meningitis and encephalitis [phrenitis], intermittent fever, herpes (which he uses in a very comprehensive sense), boils, small-pox, venereal maladies, palpitation of the heart, phthisis, scrofula, gout, and the plague. Palpitation is the scourge of the Pasha's army. It appears to be a form of nostalgia, the recruits being often raised by pure force, and most unwilling to serve. Phthisis, scrofula, and gout, are exceedingly rare in Egypt.

So far our Italian brother; let us now turn to Dr. Cumming's account. Dr. Cumming, who had resided in India, and was suffering under disease of the chest, consulted Andral, who gave the following opinion of his case, and of the treatment which ought to be pursued:—

"Monsieur ——, chez lequel je me suis rendu en consultation il y a peu de jours, présente les signes d'un emphysème pulmonaire. Il ne m'est pas démontré qu'il ait des tubercules; *plusieurs circonstances* toutefois doivent faire craindre le développement ultérieur de ceux-ci. Je conseille les moyens suivans:—

"1. Frictions assez long-temps continuées au-dessous des clavicules avec la pommade stibiée.

"2. Usage habituel du Datura Stramonium, dont Monsieur fumera les feuilles comme celles du tabac.

"3. Vers la fin du mois de Mai, Monsieur se rendra à Bonnes (dans les Pyrénées), dont il boira les eaux pendant six semaines. Il se rendra ensuite à Cauterets, dont il boira aussi les eaux; il prendra spécialement celles de la source de la Raillière, et il les coupera d'abord avec du lait.

"4. Vers la fin de l'été, Monsieur se dirigera dans l'Italie, et y passera tout l'hiver.

"5. Monsieur suivra constamment un régime doux, et il évitera avec le plus grand soin l'influence du froid, de l'humidité, de toutes les variations brusques de température.

"ANDRAL*.

"2 Avril 1836."

Dr. Cumming, however, did not follow this advice very strictly; he did not drink the Pyrenean waters, but, after spending some months in France, Italy, and Switzerland, went to Alexandria, where he arrived at the end of October. He passed the winter in Egypt, and became quite fascinated with its climate. He says—"He who feels the cold fogs of cloudy England fall like lead upon his soul, sour his

* Mr. ——, whom I saw in consultation a few days ago, presents the signs of emphysema of the lungs. I do not think it proved that there are tubercles; but *several circumstances* make me fear their ultimate development. I advise the following remedies:—

1. Long-continued friction below the clavicles with the tartar emetic ointment.

2. The habitual use of stramonium, of which Mr. —— is to smoke the leaves like tobacco.

3. Towards the end of May he should go to Bonnes, in the Pyrenees, and drink the waters for six weeks. He should then proceed to Cauterets, where he is also to drink the waters, particularly those of the Raillière spring, which he is at first to mix with milk.

4. Towards the end of the summer he should go to Italy, and spend the whole winter there.

5. He must constantly keep to a mild regimen, and avoid with the greatest care the influence of cold, moisture, and all sudden variations of temperature.

ANDRAL.

April 2, 1836.

spirit, and impair his health, should haste him to the Nile, to inhale for a season its balmy and exhilarating air." —Vol. ii. p. 61.

And in an earlier part of the same volume he speaks as follows:—

"In England we are apt to associate pestilence and death with the very name of Egypt; but this vulgar prejudice must vanish before the omnipotence of truth. The invalid who comes here for the winter, should not be later of arriving at Alexandria than the middle or end of October; he should lose no time in pushing for Cairo, nor remain there beyond the end of November. The higher he proceeds, the drier and milder the climate becomes. He should bring with him from Europe a plentiful supply of warm clothing, a good stock of appropriate books, a pair of pistols and gun, and a canteen for two persons."—(Vol. ii. p. 10.)

Perhaps the author's recommendations are rather too zealously given. For, in the first place, many invalids have not pluck and stamina enough for the voyage of the Nile. Dr. Cumming was obliged to seize his head boatman and thrash him soundly, and recommends this kind of stimulation as the true method of getting on. Now your genuine invalid, pale, shattered, and hesitating, who cannot be persuaded into a party of pleasure, and must go to bed at half-past nine, though he left a Sheridan in the drawing-room, would shrink from seizing "a malignant and a turbaned" Arab by the throat, and would be more fit to be thrashed than to thrash. Still there may be invalids like Dr. Cumming, stout in heart and arm, though weak in lung, who might get over this difficulty; but for pulmonary patients we should imagine that the excursion up the Nile is too cold in winter; they had better stay in their lodgings at Cairo. Then comes the question, to which we find no answer in Cumming, nor in Morpurgo, can an Englishman of refined habits live comfortably through the winter at Cairo? At Naples he will find pictures and statues, books, music, theatres, and every variety of social amusement, English and Italian. At Cairo we doubt if there is even a very good hotel. Dr. Cumming tells us, that at Alexandria, knives, forks, and plates, are dear, and difficult to be had.—(Vol. i. p. 202.)

Wheel carriages are, we believe, almost, if not quite, unknown. The author made an excursion from Cairo to the pyramids, chiefly on donkey-back, the time of transit being five hours and twenty-five minutes, and passed the night in a tomb. If he could do this as an invalid, assuredly in his healthy days he must have been made of iron and caoutchouc.

We make no question, however, that if the present enlightened ruler of Egypt, whose mind grasps the smallest details, as well as the largest generalization—like the trunk of an elephant which can root up a tree, or pick up a pin—were to learn how many British invalids would profusely reward any thing done in their behalf, Cairo might soon boast a splendid hotel; and the comforts of English life would spring up at the magic touch of Mehemet Ali.

The diseases of Egypt, though probably not quite so formidable as they were formerly thought, must not be left out of the account, when we balance the Delta against Naples or Sicily. Dr. Cumming had a most dangerous illness, apparently arising from a very slight cause.

He was seized with dysentery on the 23d December, 1836, in consequence, as he believes, of eating a small portion of water-melon; the attack commencing two hours afterwards. He had no medicines of any kind, but the body was spunged, and the abdomen fomented, with hot water. Recovery took place with difficulty, but his convalescence was rapid.

He contrasts this attack with a precisely similar one which he had at Cawnpore, in the autumn of 1829. On that occasion he was largely bled, "had fifty leeches applied to the abdomen, and during the first four days of the disease, in addition to extensive mercurial frictions, I swallowed 216 grains of calomel! True I recovered, or rather, I did not die; whether in consequence of, or *in spite* of, the above heroic treatment, I will not venture to say.

"My face was swelled to an enormous size, every tooth was loose in my jaws, and for six or eight weeks I could eat no solid food. My constitution received a shock, from which it never fairly recovered; and I was finally obliged to come to Europe on furlough. On the present occasion, fortunately for me, the

'vis medicatrix naturæ' was my sole physician, and I am now almost as well as before the attack commenced."—(Vol. i. p. 291.)

Of course every practitioner of physic will do well to take a tolerable stock of medicines with him to Egypt; opium, quinine, and calomel, being among the more necessary articles. The following extract gives some useful hints to medical travellers:—

"On rising to depart, his chief secretary, a venerable old man with white beard, begged of me to examine his eyes, and give him some medicine. I found a cataract in both, and one in a most tempting state for extracting. Of course, I could do nothing but make Mahmoud explain that his case was beyond the reach of physic. I have daily more and more occasion to regret my being so totally unprovided with medicines. Any thing coming from a Frank has a virtue in the eyes of these people; but I have not even a dose of salts in my possession.

"There is no profession so much esteemed, and consequently so well adapted for travelling in the east, as that of the medical man; but then he must go provided with the symbols of his art, else his knowledge is useless. I do not know a more profitable and agreeable manner in which a young surgeon (more especially if he intended to devote himself to the study of the eye) could dispose of his time, than by passing a winter on the Nile. With a good set of eye instrument, and an appropriate supply of medicines, he might not only do infinite service to himself, but also incalculable benefit to the poor natives. On reaching a village and dispatching his servant to the Sheik, to announce his calling and purpose, the halt, and lame, and blind, would immediately flock to him. He would have many opportunities of operating for cataract and other diseases; and he would also have better means of knowing and studying the people than any other traveller."—(Vol. i. pp. 338-340.)

We will conclude with one more hint to our younger readers. If they wish to travel with advantage, they should carry with them not only good medicine, good instruments, and good humour, but a knowledge of several languages to boot.

MEDICAL GAZETTE.

Saturday, August 3, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE NEW EDINBURGH PHARMACOPŒIA.

After the lapse of twenty-two years the Royal College of Physicians of Edinburgh has very properly re-edited its Pharmacopœia; and, under the guidance of its accomplished President, Dr. Christison, has brought this useful compilation more nearly to a level with the progress made of late years in the art of healing, as well as the science of chemistry.

Many persons will be surprised, some few will be shocked, but more will be gratified, to find that the present Pharmacopœia is in English, being the first time that such an innovation has been ventured upon in these islands. It is the second instance, we believe, in Europe, of a Pharmacopœia having been published in the native language of the compilers, the first one having been the Parisian Codex of 1837, which, as our readers know, is written in French. The compilers of the Codex, as we observed last year, ground this change on the obvious reason, that French is better understood in France than Latin, and on the impossibility of their preventing the immediate appearance of some bad translation. In one point, indeed, they state the case too strongly against themselves; for, after observing that Latin is the language common to all civilized nations, they add, that it serves as the means of communication between the scientific men of all countries. Now this, though true of past ages, can hardly be predicated of the present one;

and if said of the 50,000 physicians and druggists of France, would be the reverse of the fact.

This change in France and Scotland, which will be the precursor of a similar one in other countries, is, of course, merely one of the symptoms of far greater alterations taking place on every side. The contest whether a Pharmacopœia shall be in Latin or English is part of the general struggle between the study of the ancient and that of the modern languages; and this again is allied to the still more comprehensive battle between elegance and utility. Shall we pursue our journey on horseback, through shady lanes, at the rate of twenty miles a day, or whisk along through the dreary channel of a railway at the same rate per hour?

Let us endeavour to weigh the claims of both parties like impartial critics, and act as umpires between the enthusiastic admirer of classical beauty and the mere dry utilitarian.

Before the revival of literature, and for some ages afterwards, Latin was the natural language of science, and in a great measure of the belles-lettres also. To publish a learned treatise in English two or three centuries ago, was almost as imprudent as in our days it would be to print it in Welsh. From the population of England being so much larger than that of Wales, the imprudence might seem to be less in degree, though the same in kind; but in truth, as now in Wales every person of cultivated education reads English, so then in England every person of liberal pursuits was supposed to read Latin; and the author who wrote in English exposed himself to become despised at home and unintelligible abroad. Still exceptions would occasionally occur; sometimes an author might write in his native tongue from caprice, from want of facility in Latin, or from compassion for the scientific wants of his less educated fellow-countrymen; and in a few instances, as was the case with some of Bacon's treatises, it might be expedient to publish a work both in English and Latin, in order to satisfy at once the wants of the unlearned at home, and those of the republic of letters throughout Europe. This custom of using a dead language to express the ideas of the living arose in part from Latin having been the language of the masters of the civilized world, and therefore the most obvious medium of communication in most of the countries subjected to their sway; and, in part, from the rude dialects of the tribes that broke down the Roman empire not possessing terms to express the niceties of medical description or physical definition, or the shades of refined sentiment.

But here, as in so many other cases, the use survived the necessity; and by the natural transmission of habits, long after the bold and the patriotic had stamped their own energy on the languages which they spoke, and engrafted the scientific diction of Greece and Rome on the homespun dialects of their ancestors, the majority of the learned still clung to the language endeared by so many associations, and hallowed by such a constellation of genius.

In several instances, when the authors were unable to express themselves with facility in the language of Terence and Cæsar, it was thought necessary to seek for some friendly aid, in order to clothe their ideas in the required dress; for it would have appeared to many as unseemly to rush into print in English, as to run into the streets in night-gown and slippers.

Thus, if we mistake not, both Newton and Sydenham wrote in their native tongue, and were indebted to others for the foreign garb in which their thoughts appear. A very curious instance of the doubtful struggle between ancient and modern languages, occurs in the pre-

face to the first volume of the Edinburgh Medical Essays and Observations, printed in 1733. The authors tell us that they had hesitated whether to publish the book in English or Latin, and that the latter would have been easier to them. At that time, and up to a much later period, educated Scotsmen did not speak the language of the Southron; to translate their Doric dialect into the more stately forms of the south, was more difficult than to write in the language of Rome; but the thirst for English medical books had begun, we suppose, to be sufficiently great throughout these islands to surpass the continental demand for Latin ones; and they made their choice accordingly. If we recollect aright, it is in one of the early volumes of the Transactions of the London College of Physicians, that Dr. Carter transmits a case in English, but regrets at the same time that the good old English custom of writing such narratives in Latin is going out of fashion. Without going the full length of Dr. Carter's regret, we must confess that this old custom of delivering medical histories in Latin had the incidental advantage, among others, of putting an extinguisher on those flaming narratives which are intended as mere baits to the laity. Few persons would print cases of organic disease cured by veratria, if the miracles must be trumpeted forth in Latin only.

In other professions the preference given to Latin is equally striking. In the law, written pleadings were in Latin until the reign of George the Second. In the church and institutions for education, examples crowd upon the memory. Thus the whole Romish service is in Latin, and a part of the prayers at our universities and public schools is still in the same language. So are the statutes of Oxford and Cambridge, more obsolete than the dialect in which they are written. The disputations (or *keeping of acts*), once the chief method of ascertaining the proficiency of a student, are still stumbled through in Latin.

The old method of learning Greek through the medium of Latin, was not wholly extinct in our schools twenty years ago, and is certainly one of the reasons, and not one of the smallest, why Greek scholars are so very scarce. Whether this practice yet survives in any obscure corner, we know not.

The medical examinations at Edinburgh were in Latin until quite lately. With the gradual disuse of the Latin language as the familiar instrument of study and learned intercourse, the disadvantage of using it as the means of examination becomes apparent. A candidate quick in Latin, though unskilful in medicine, not only has an immense advantage over an unclassical compeer, but may even dumbfound a slow examiner by the ever-ready terseness of his latinity. The same sort of thing may happen to a certain extent even when the language of examination is English, but will, of course, be more likely when a dead language is resuscitated for the occasion. Perhaps the London College of Physicians has hit upon the true medium by mingling the two, and thus testing the depth of the candidate's acquirements, by his answers in his native tongue, and his knowledge of the older writers, by the facility with which he imitates their diction.

We may remark, that in many of the smaller countries of Europe (Holland and Denmark, for example), physicians still very commonly write in Latin; the reason being, probably, that the native practitioners form so small a public that an ambitious writer addresses himself to the choicer readers of every region in Europe.

But even if Latin were no longer used any where, its study would pos-

sess several strong recommendations. In the first place, Latin is required to read the works written before the period when modern languages began to be used for scientific purposes. In the second place, the study of Latin is the study of general grammar. As Latin is more difficult than any modern language, it serves as a good introduction to its easier successors; just as the Roman was taught in peace to carry heavier arms than he required in war. The man who can read Virgil with facility, is not likely to complain of the difficulty of Ariosto. It is thus that Latin may be said, with justice, to be an excellent introduction to living idioms, not so much from the resemblance of words, but because its more varied flexions and more complicated construction make it really a key, not only to the languages descended from it, but to those which have but a slight affinity. Yet impartiality obliges us to confess, that the key is often so long in making, that the lock is never opened.

In the third place, the study of the Roman classics is the study of literary elegance; and though it is inferior to that of the Greek ones, if the latter be pushed to its full extent, yet as this seldom happens, the Roman writers more frequently leave a deep impression on the mind than their Grecian masters. It is wholly impossible to read without profit the writings of those who sometimes spent a lifetime in the composition of a volume; something of accuracy and of elegance must be culled by the most superficial student, and deeper qualities will reward a more profound examination.

Another reason might be added in favour of the study of the Roman language, but its soundness is doubtful. Yet as it is constantly urged in one form or other, it may as well be stated. It is observed, that as Latin has hitherto been an essential part of every complete system of instruction, it has been a sort of test of education; and if we find a man ignorant of this tongue, we almost always find that his education has been neglected in many other points. This may be true; but at best it is rather a hint to individuals as to matters which, in the present state of society, it is unsafe to neglect, than an argument addressed to great classes as to the knowledge which they should propose as most worthy of attainment. Thus we might advise a man to wear tails to his coat, as being most fashionable, but recommend jackets for a uniform, as being most handsome. Still we do not deny the force of this advice when given to individuals, though it would be of little weight if addressed to powerful bodies remodelling the education of a people. But as our readers may have seen from our previous remarks, we are not averse to the studies recommended by these timorous exhorters, though we would rather have them generously pursued through sympathy, than sullenly endured through fear.

Moreover, it may be doubted whether any medical body has such influence in society, that by totally discarding classical studies they could produce any other effect than that of lowering themselves.

Such are some of the arguments which might be adduced in favour of the study of the ancient languages, and particularly of Latin. The advantages of knowing modern dialects are even more obvious. Their study opens the boundless stores of knowledge set forth in French, German, Italian, and other languages. This study is the best possible introduction to the study of human nature, or rather is a great part of it; for he who knows a language is not far from knowing the people who speak it. No man speaks an idiom by a mere effort of memory; and to make new

phrases in harmony with the forms already existing, the speaker must have no superficial acquaintance with the predominant genius of the language, that is, with the spirit of the people stamped upon the words which it pours forth. The advantages to physicians in particular, of speaking living tongues are abundantly clear. They are a travelling race of men, and the painful inconveniences which arise from ignorance in this point are proved by daily example.

Many of our readers may recollect the mortifying adventure which happened a few years ago to the Rev. Mr. Gleig, when travelling in one of the Austrian provinces. Not knowing a word of the dialect of the country, he misunderstood what was addressed to him by some petty official personage, and answered with his pistol instead of his tongue. We believe he mistook a police-officer for a highway robber.

The student will, of course, not confine himself to one modern language. The Society of Apothecaries very properly recommend German as well as French; and those who have more time than their regulations suppose to be bestowed on education, may easily add other languages.

It is painful to make the discovery, after landing in some distant country, that a small stock of that remarkable dialect called *boarding-school French** is not a universal passport.

Dr. Cumming informs us, in his "Notes of a Wanderer," that on one occasion, when travelling in Germany, he dropped his umbrella; he wished the postillion to stop, but his cries only made the man drive the faster; had he known the simple word Halt, the umbrella might have been saved.

Another time he travelled in Greece on horseback without an interpreter, and all his Greek amounted to six words. We are indebted for another illustration of the subject to an anecdote very good-humouredly told by Dr. Sigmond, in his late work on Tea. One day at Moscow, he left his hotel with the name of the street written for him on a card by a Frenchman, as thus, *Rue de Démétrius*. After wandering about all day, he took a droschki, and attempted to return home, but in vain. He could not recognize the street, and the Cossack driver could not understand *Rue de Démétrius*. The driver accordingly took Dr. Sigmond to his own dwelling, gave him some capital tea, and fetched an Asiatic, whose various tongues were unfortunately all unknown to the doctor. A German came, but he did not know what street could be meant by *Rue de Démétrius;* at last a Frenchman arrived, who immediately translated the direction into *Metriffsky*, and Dr. Sigmond reached his hotel.

We shall continue our examination of the New Edinburgh Pharmacopœia on an early occasion. Meanwhile we will direct our readers to some observations by Mr. Phillips (p. 686), in our present number, pointing out certain chemical slips in the work.

* Something of the kind seems to have existed here in the reign of Edward III.; Chaucer says of his Prioress:—

"Frenche she spake ful fayre and fetisly;
After the scole of Stratforde atte Bowe,
For Frenche of Paris was to her unknowe."

ESTABLISHMENT OF A PROFESSORSHIP OF THE INSTITUTES OF MEDICINE,

In the University of Glasgow.

[From a Correspondent*.]

Dr. Badham's chair in the University of Glasgow comprehends the Theory and Practice of Medicine. Dr. Badham confining himself to the Practice of Medicine, the College, some six or seven years ago, appointed (with the consent of Dr. Badham) Dr. Harry Rainy, to give the lectures on the Theory or Institutes of Medicine. Dr. Rainy is a man of talent and great

* The name is given.

knowledge of his profession; he, moreover, possesses a profound knowledge of physiology, in its present highly cultivated state. If, to all this, we tell our readers he adds zeal, it will not appear surprising that under his auspices the class of the Institutes of Medicine, in the University of Glasgow, should have attained such a high degree of popularity, that the number of pupils in session 1837-38 was 141—about double what it was when Dr. Rainy commenced lecturing. Nor was this casual or accidental. The commissioners of inquiry into the state of the Scotch Universities, mention, in their report concerning the University of Glasgow, the numbers of Dr. Rainy's class for a period of six years, and recommend the erection of it into a professorship. Of course, they recommend no particular person as professor; but it could not be doubted that Dr. Rainy was both the best qualified, and best entitled, to be so. Government has just established a chair of the Institutes of Medicine in the University of Glasgow, and appointed—we grieve to say—*not* Dr. Harry Rainy! We by no means deny the propriety of Government appointing persons of their own political principles to situations, in preference to others—the candidates being equally qualified, and the one not having any peculiar claim more than the other; but in the case before us, a gentleman, so far as we know, not better qualified to teach such a subject as the Institutes of Medicine than any other medical practitioner who has not attended particularly to the progress of physiology—a gentleman, we say, having no peculiar claims, except his political opinions, has been appointed to the chair, to the exclusion—nay, to the *ejection*—of him whose talents, labours, and zeal, formed the class.

ENDERMIC MEDICINE.

We are indebted for the following analysis of Dr. Ahrensen's work on the administration of medicine by the skin, to a German journal (Schmidt's Jahrb. May 1839). Dr. Ahrensen had the advantage of carrying on his experiments in the Frederic's Hospital, at Copenhagen: his work is entitled *Dissertatio de Methodo Endermaticâ.*

First Section.—He is of opinion that a blister is generally the best method of removing the epidermis; but when speed is desirable, or a blister cannot be applied, as in the case of very sensitive, timid persons, or in children, he uses a mixture composed of two parts of very concentrated ammonia and one part of lard. This mixture is at first fluid, but after the glass vessel which contains it has stood for thirty hours in cold water, it becomes solid, and of a greyish-yellow colour: it raises a blister in ten or fifteen minutes. He found that the *pommade ammoniacale* of Trousseau and Bonnet, consisting of equal parts of concentrated spirit of ammonia and lard, with one-fifth of tallow, did not have the effect they describe.

When a local effect only is desired, the remedy must be applied to the diseased part itself; when a general effect is wished for, the application must be made to those spots which lie nearest to the organs which are to be affected. The author limits the application of more blisters than one to those cases where the disease is of great extent, and affects different organs. He believes the most suitable form of using the remedy to be in powder. It is generally unnecessary, and even injurious, to mix other substances with the remedy used, unless the drug by itself is too irritating; as is the case, for example, with the salts of quinine. Dr. Ahrensen found that the pain which these cause, when endermically applied, is much lessened if united with fat; when this was not done, he has seen ulcers produced which had not cicatrized in four, or even six weeks. In order to lessen the pain, he has also often applied a poultice with narcotic herbs. The medicines must be applied immediately to the exposed cutis. A high temperature and moisture accelerate the effect, as the author found by an experiment on two kittens. Perhaps (he adds) a poultice laid over the point of application serves the same purpose.

Second Section.—On the efficacy of individual remedies applied endermically.

A. *Narcotics.*—Morphia and its salts. The author prefers the sulphate of morphia, partly on acconnt of its greater solubility, and partly because Pelletier asserts that it keeps purer than the acetate. He does not agree with A. L. Richter, that the acetate of morphia excites neither inflammation nor secretion on the cutis; for he has always seen a slight suppuration arise, so that it took three or four days to form a new epidermis. The reviewer coincides with him in opinion. Dr. Ahrensen had one opportunity only of applying the sulphate of morphia on the fourth day of a very violent spontaneous tetanus. The effect was very transitory, and the patient died on the same day. On dissec-

tion, there was found inflammation of the spinal marrow, and softening of its thoracic portion. According to all experiments hitherto made the endermic application of morphia is preferable to the internal use of opium in this disease; partly because the narcotic is in this way more easily incorporated with the system, and partly because morphia, introduced by the cutis, is not so irritating to the vascular system. The application is to be immediate, after the removal of inflammatory affections by bleeding, &c. When organic alterations have already taken place, the endermic application of morphia is as profitless as the internal use of opium. As to its application in delirium tremens, the author brings forward three experiments made in the Frederic's Hospital, which are not very decisive, indeed, but still shew that the endermic use of morphia is commendable, when the internal employment of opium or morphia is for any reason unadvisable.

Morphia was twice administered by the skin, in mania, as a palliative, and procured some repose for a time. The author used the acetate of morphia for spasms of the left side of the face, without any relief. Two cases of what appeared to be rheumatic neuralgia of the face, were cured by Dr. Ahrensen with the endermic application of the acetate and sulphate of morphia. He also entirely cured an *ischias nervosa postica* by three grains of the sulphate of morphia, after venesection, leeches, nitre, stramonium, and opium clysters, had been employed in vain. Of five cases of hemicrania, the endermic use of the acetate or sulphate of morphia was of no advantage in three; in another it produced only slight relief; but in the fifth, though the disease had lasted nearly half a year, four applications of the sulphate (increasing the dose from one to two grains), cured it so far that nothing remained but a sensation of heaviness, which afterwards went off spontaneously. The author often tried this remedy against toothache. It sometimes cured pain in the side, either originally unattended by inflammation, or when the inflammation had been removed.

In chronic and local rheumatism without fever, the author has seen excellent effects from morphia endermically applied; but acute rheumatism with fever is cured by leeches, small blisters, and vapour baths; and the application of morphia to the cutis is only a palliative. The reviewer cured a rheumatic hemiplegia of the face, after a perpetual blister behind the ear, and the rubbing in opodeldoc and laudanum had been tried in vain, with acetate of morphia. He first used it endermically with instantaneous advantage; but afterwards internally, on account of the pain it produced when applied to the cutis.

A woman who laboured under intermittent fever, with a bronchitis which was becoming chronic, was cured of the latter by the author by the endermic use of acetate of morphia. To relieve coughing and produce sleep at night, the endermic use of morphia is to be preferred to the internal administration of opium, partly because the relief is quicker, partly because it is less heating. The author cured hooping cough in a girl, aged eight, by the daily endermic application of half a grain of the sulphate of morphia, eight times; and it did not produce narcotism. In another case where sopor came on after three applications, only a remission was effected.

The reviewer used the acetate of morphia in the hooping-cough of two adults, first endermically, and then internally, in the dose of half a grain in the evening; and by these means cut short in a few days a disease which is otherwise so obstinate. In children he has not yet employed it so as to be able to speak of it with confidence.

In vomiting and cardialgia, the author found the endermic application of acetate or sulphate of morphia most beneficial; when scirrhus was the cause, this method at any rate mitigated the symptoms for some time better than any other remedies. The endermic use of morphia in dysentery has been extolled by Gouzée, of Antwerp; but Dr. Ahrensen thinks the effect may be referred rather to the blister than to the morphia. The reviewer, however, says that this is incorrect, for he has often seen the acetate, given in the evening to the dose of a third or half of a grain, remove the pains and the tenemsus for nearly the whole night, and be the greatest comfort to the patient; but the pains and tenesmus return on the following day with the constant evacuations of blood and mucus. He adds, that morphia is the best palliative in dysentery.

The author cured a strangury consequent on a chronic dysentery, with the endermic use of morphia. He has also seen an intermittent hemicrania, which did not yield to sulphate of quinine, cured by one application of a grain of the sulphate of morphia, strewed upon a blistered spot which had existed for several days upon the back of the neck.

In a case of *febris nervosa versatilis*, Dr. Ahrensen once applied half a grain of the sulphate of morphia endermically with the greatest advantage. After the lapse of three hours the patient obtained five hours' sleep, from which he woke with perfect consciousness, and as if gifted with new life, so that he soon recovered.

He twice applied a whole grain in *typhus abdominalis*, on account of violent convulsion, but it hastened the death of the patients. He twice applied extract of belladonna with simple ointment, in chronic rheumatism, and spasms of the muscles of the face, but without effect. Three times he applied crocus [of antimony] against rheumatic headache; in one case this was followed by perspiration and a cure, no doubt, accidentally, as the two other times no effect was produced.

Strychinia.—The author has some excellent remarks on the application and effect of strychnia, or its salts, which are stronger than the pure alkalöid. He first warns us to be cautious; he has seen the peculiar spasms caused by strychnia come on when the remedy had been discontined for a fortnight; when its application is continued they are brought on by every emotion of the mind, and every thing which excites the circulation. Three weeks after discontinuing the strychnia, the author examined the blood, and believes that he discovered traces of it.

In a case of paralysis of the right hand, from the poison of lead, the author saw a cure effected by the endermic use of the nitrate of strychnia; but in a second case, where there was paralysis of the whole left arm from the same cause, the same remedy was unattended with advantage. The author saw a paraplegia of rheumatic origin, which chiefly affected the right extremity, cured by the endermic application of the nitrate of strychnia, for about six weeks. In hemiplegia, after apoplexy, the result was always more or less imperfect. He also saw amblyopia, following typhus, disappear after four applications of the nitrate of strychnia, pushed to the dose of a grain; but, as he observes, perhaps this was owing to the mere blisters. In a case of amaurosis in a woman suffering from chronic metritis, after a fright, the same method seemed to be of some benefit. In a case of hysterical aphonia, it was of no avail. In two cases of paralysis of the muscles of the face, the author saw the happiest results from the application of the nitrate of strychnia to the cutis, but in two other cases none at all.

In three cases of enuresis, this method was used without success, as likewise in a case of St. Vitus's dance.

Febrifuge remedies: the sulphate and muriate of quinine.—The author treated three complicated intermittents with success by the endermic method. He says, "The endermic method is always to be preferred if the patients are labouring under diseases of the pharynx or œsophagus—if the fever is complicated with an inflammation of any organ, or a local neurosis—or, lastly, if it is accompanied by pain in the spleen, and if the disease is of a pernicious type, we must join the internal to the external employment, in order that as much of the remedy as possible may be introduced into the system, and thus the threatened paroxysm may be more certainly averted."

For the place of application the author advises the epigastrium, or the region of the spinal cord; he applies eight grains, mixed with lard, all at once, in order to spare the patient the repetition of pain. He has not found combining the quinine with morphia either advantageous or the reverse. He cured a periodic headache by the endermic application of quinine to the back of the neck.

Expectorants.—The application of kermes mineral has always been followed, in the author's experience, by copious suppuration, and almost always by increased expectoration, but by no other symptom, though several are mentioned by other writers. The dose was in every case six grains.

Diuretics.—The author once cured a man of five-and-twenty, labouring under a catarrh, combined with ascites and hydrothorax, by the endermic application of squill mixed with lard. The local irritation was not very considerable. A copious secretion of urine came on, frequent night-sweats, and great expectoration. Digitalis endermically applied causes very violent pain; but the author several times employed it successfully in anasarca, in the dose of eight grains. This method of using it is to be recommended, when the state of the digestive organs altogether forbids its internal use, or forbids it after the lapse of some time. Iodine was tried in vain in the hospital, as it did not produce the slightest diuresis.

Purgatives—Gamboge was applied in the hospital twice; in one case six grains were of no avail; in the other, the repeated application of ten grains had a good effect. A woman suffering under blind piles, whose bowels could be opened only by castor oil, and that with difficulty, after the endermic application of ten grains of the watery extract of aloes, had spontaneous evacuations on the two next days, which had long not been the case.

This method of incorporating remedies deserves all consideration, says Dr. Rösch, the reviewer; and while, on the one hand, Dr. Ahrensen avoids all exaggerated praise of endermic medicine, on the other, he is equally far from rejecting it.

SENSIBILITY OF THE ANTERIOR SPINAL COLUMNS.

At the sitting of the Académie des Sciences of the 20th of May, M. Magendie communicated the results of some experiments on the nervous system, of which the following is the abstract:—

The (roots of the) sensitive and the motor spinal nerves are equally sensible when they are both entire. If the sensitive nerves be cut, the motor immediately lose their sensibility. If the motor nerves be cut across at the middle of their roots, the end which remains attached to the spinal cord is perfectly insensible, but the other end (next the ganglion) preserves an extreme sensibility. In this case, the sensibility goes from the circumference to the centre.

If the sensitive nerves be cut at the middle of their roots, the end which remains attached to the cord is very sensible; the end which is attached to the ganglion has lost, on the contrary, all its sensibility.

At the *séance* of the 3d of June, M. Magendie communicated the following additional observations:—

I pointed out recently the singular fact that the anterior root of the spinal nerve receives its sensibility from the posterior root, and that this acquired sensibility comes from the circumference to the centre. I was curious to know whether the same kind of influence does not exist between the columns of the medulla. After having again confirmed the fact that the posterior columns have an exquisite sensibility, while that of the anterior is less marked, I cut on one side the posterior roots of a pair of lumbar nerves; I then examined the anterior column at the same level, and found its sensibility very slight, if not entirely destroyed. This influence was probably transmitted by the uninjured motor roots; but to verify this idea, I cut through the middle of the motor roots, leaving the sensitive roots entire: the same loss of sensibility in the column, at the place and above the place whence the roots arose, was now observed.

After repeating these experiments several times, I am enabled to conclude that the posterior column of the medulla spinalis, the sensitive roots, the ganglion, the spinal nerve, the motor roots, and, lastly, the anterior or motor column, form a kind of circular chain, of which each of the elements serves to transmit sensibility from the posterior cords to the anterior. Why is this transmission effected by so long a route, when it might have been effected by the simple intermedium of the sutural column? I know not; it is a new question for experiments; but the fact of the influence of one part of the central nervous system on another, is not in itself less remarkable, and may, if it is confirmed, open a new route for researches in this still obscure subject. — *Comptes-Rendus*, May 20, and June 3, 1839.

LUMINOUS APPEARANCES IN THE EYES.

M. Savigny, member of the Académie des Sciences, has for fourteen years suffered from such violent neuralgia in the eyes, that he has been constrained to remain in perfect darkness for the whole of that period. This darkness does not appear such for him, for the appearance of light, which, unfortunately, has a continual source in his eyes, incessantly fills the whole space. Lately, M. Savigny has made the following communication to the Academy on this subject:—

Every one who passes his finger on the ball of the eye, near the inner angle, produces in the dark a little circle of light, which appears at the external angle. These luminous appearances (phosphoric) are from eight to ten lines in diameter, never appear of themselves, and always are seen about the edges of the eye. Those seen by M. Savigny appeared under three forms, each of which assumed other forms. In the first, the appearance was circumscribed, circular, simple, or manifold; in the second, like a torn or shredded piece of cloth, or as a long band on the upper border of the eye; in the third, the appearance consisted in a single circle of many feet diameter, formed by a simple line parallel to the edge of the eye, and which at a certain distance appeared to surround the entire countenance. Seven years after the access of these appearances, in the year 1832, they increased much in intensity with regard to size, conformation, multiplicity, and brilliancy. The circular appearances had sometimes a diameter of from six to ten inches, were simple or festooned on their borders, sometimes of the colour of raw silk; or white, with silver or brilliant golden borders; sometimes yellow, orange, red, or black, with a broad border of gold or silver; sometimes they had the appearance of many concentric circles, with concentric undulations of the greatest fineness and most splendid brilliancy. The largest and most brilliant appearances were on the marginal parts, and frequently terminated above in a kind of cupola. The more crowded the figures were, the more they lost in splendour, colour, and distinctness of outline. At first they only appeared from time to time, but

now almost daily, and it only required simple contraction of the eyelids to produce them. Their size, form, colour, and brilliancy depended for the most part on the altered position of the organ. When this phenomena is produced by the pressure of the finger, the way in which the pressure is exercised has an influence on the kind of appearance. When the finger is pressed from the inner angle of the eye towards the outer, the luminous appearances are seen in exactly a contrary direction, and appear on all points of a large curve above the eye, which sometimes reaches as far as the other eye, but generally only reaches as far as the middle line. If, along with this pressure, a retrograde motion is made, the appearances are increased more or less, but they rise or sink in a quick and confused manner on the curve we have described. In general, when the pressure is firm, the appearance is larger, more regular, and more vivid; when the pressure is uneven, wavy, and irregular. The luminous appearances generally begin and end with the pressure; but applying the pressure very frequently diminishes the power of producing these appearances. They always made their appearance when M. Savigny, wearied with the intolerable pain caused by congestion, pressed upon the bandage which covered both his eyes, in order, by pressure, to assist the eyelids in effecting the emptying of the vessels.—*Arch. Gén.* Août 1838; and *Dublin Journal of Med. Science* for July 1839.

LIVERPOOL NORTHERN HOSPITAL.

Dislocation of the lower end of the Fibula.

A. Bevington, 6 years of age, fell from a height of thirteen feet, alighting on the outer side of the right foot. He was admitted into hospital about an hour after the occurrence of the accident. The foot when applied to the ground rested on its outer side, its plantar surface being turned inward. No fracture of the bones interested in the ankle-joint or tarsus could be discovered; the inner malleolus was intact, and the patient being of a spare habit, the fibula could be so far traced as to leave little doubt of its being also uninjured. The lower end of the fibula projected in a very remarkable manner, stretching the integuments over it; its connections with the tarsus and tibia had apparently been torn; the peroneal tendons seemed to have been displaced from their groove, and got rather to the inner side of the fibula, and thus allowed the flexor communis and posterior tibial muscles to invert the sole of the foot as described. On putting the limb in a flexed position, extending from the foot, and at the same time pressing in the outer malleolus, the joint could be made nearly to assume its natural shape; but this speedily disappeared on the withdrawal of my efforts.

With the view of retaining the parts in position, Dupuytren's splints for fractured fibula was applied to the fibular aspect of the limb; the figure of 8 bandage, while retaining the foot in position, urged the obtuse end of the pad against the fibula, and thus assisted in preserving the contour of the joint. The patient is doing well so far; but I fear that, in spite of every effort to the contrary, a certain lameness will remain.

Dislocation of the head of the Radius backward.

About three months ago, a boy, aged 13, was shown me, who was stated to have fallen on the palm of his right hand from a height of several feet. On flexing the elbow-joint, and at same time applying my fingers to its posterior part, the head of the radius could be distinctly felt lying upon the outer and back part of the external condyle of the humerus, the bones composing the elbow-joint met at an obtuse angle, while flexion or extension of any moment was impossible. The hand was pronated, and usually retained in the patient's breeches pocket, to prevent the pain arising from the dislocated bone being pushed against the condyle of the humerus when the arm was allowed to hang down. The time of my seeing the boy was six weeks after the receipt of the injury. He had been to a Welsh bone-setter—a practice very common even among the better classes of Liverpool—and that worthy had, as he said, "set the bone." Of course, at a period so distant, any attempt at reduction was out of the question.

Taking into consideration the miserably impaired state of the joint's functions—the more than probability that the displaced bone had ceased to be directly connected with the synovial lining of the joint—and the good health of the patient, I conceive that excision of the head of the radius might be performed with every probability of success, as regards improvement in the motions and consequent usefulness of the elbow-joint.

G. N. A.

July 11, 1839.

NEW VACCINE VIRUS.

We mentioned in our preceding No. (p. 516,) that Mr. Estlin, of Bristol, had obtained vaccine virus directly from the cow—and had transmitted some lymph propagated from it, to this country. We have since been favoured by our friend Dr. J. Carson, with lymph from this source, said to be but fourteen removes from the cow, and have used it in several instances. The disease which resulted had the peculiar characters described by Jenner, but more strongly marked than we have seen them from the matter at present in use. The inflammation did not make its appearance until somewhat later than usual (the fifth day,) but the vesicle was regular in its progress, rather larger perhaps than common, but flat and indented in the centre. The scab was thick, dark-coloured and firm—more strongly characteristic of the disease than any scab we have seen for a number of years.—*American Journal of Medical Science* for May 1839.

PRESCRIBING IN PRUSSIA.

He disliked the whole system in Prussia, and would state a fact illustrative of its character. A friend of his being lately in Prussia, was desirous of having a prescription written by Sir H. Halford made up; but he could find no apothecary who dared to do this, unless the prescription was countersigned by a Prussian physician; and he could get no Prussian physician to subscribe the prescription, until it should be previously signed by another Prussian physician. (Laughter). — *Lord Brougham's Speech on Education*, July 15, 1839.

LITERARY ANNOUNCEMENT.

Professor Rudolph. Wagner, of Erlangen, well known as the author of a very valuable "Lehrbuch der Vergleichenden Anatomie," and of several very valuable monographs, has published the first part of a Manual of Physiology, adapted as a text-book for lectures, as well as for self-instruction, and with a special reference to the education of medical men. It is to be published in four parts: the first, which has appeared, treats of Generation and Development; the second will comprehend Nutrition; the third will contain Sensation and Motion; and the fourth, General Physiology. A volume of plates, under the title "Icones Physiologicæ," is also announced, but has not yet reached us, to which very frequent reference is made in the text. That portion of the work which has already appeared, has been executed in the most masterly manner: the arrangement is admirable, and the style clear and interesting. If the other parts equal this, of which, from our knowledge of Professor Wagner's works, we can have no doubt, no book can be more admirably suited to the wants of English students.

We are authorized to announce that a translation of the work is in progress, the particulars of which will be speedily advertised as soon as it can be ascertained when the first part is likely to be published.

WEEKLY ACCOUNT of BURIALS.

From Bills of Mortality, *July* 30, 1839.

Abscess	2	Fever, Typhus	6
Age and Debility	31	Hæmorrhage	2
Apoplexy	5	Hooping Cough	3
Asthma	2	Inflammation	17
Cancer	1	Brain	1
Childbirth	3	Lungs and Pleura	1
Cholera	1	Measles	14
Consumption	36	Miscarriage	1
Convulsions	31	Mortification	3
Dentition	5	Rheumatism	1
Dropsy	5	Thrush	1
Dropsy in the Brain	5	Unknown Causes	81
Fever	10		
Fever, Scarlet	8	Casualties	3

Increase of Burials, as compared with the preceding week . . . 57

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

July.	Thermometer.		Barometer.	
Thursday . 18	from 60	to 71	29·52	to 29·62
Friday . . 19	56	68	29 60	29·61
Saturday . 20	55	69	29·65	29·74
Sunday . . 21	54	67	29·80	29·90
Monday . . 22	54	69	29·97	30·02
Tuesday . . 23	56	67	29·98	29·93
Wednesday 24	58	70	29·78	29·72

Prevailing wind, S.W.

Except the 23d generally clear, with frequent showers of rain.

Rain fallen, ·6575 of an inch.

Thursday . 25	from 56	to 70	29·72	to Stat.
Friday. . . 26	50	69	29·73	29·54
Saturday . 27	49	63	29·52	29·60
Sunday . . 28	53	63	29·75	29·89
Monday . . 29	52	63	29·90	29·74
Tuesday . 30	52	65	29·72	29·70
Wednesday 31	53	59	29·33	29·32

Wind, S.W.

Except the morning of the 27th, cloudy, with frequent and heavy showers of rain; distant thunder, accompanied with hail and rain, on the afternoon of the 27th.

Rain fallen, 1 inch and ·875 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, AUGUST 10, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

You may remember, when speaking of the composition of the urine, we found *phosphoric acid* to be a predominant, and, indeed, a very important constituent. We found it also in excess, and that it was the acid selected by nature herself to hold by its excess the otherwise insoluble phosphates in solution. Hence an excess (at least to a certain extent) of phosphoric acid is not only natural and innocent, but absolutely essential to the healthy chemical constitution of the urine; and it will prevent the deposition of the phosphates. It occurred to me, therefore, that phosphoric acid might be injected into the bladder in much greater, and consequently in much more efficient, quantity than any of the other acids—as the hydrochloric or nitric, for instance. I have had three opportunities of experimentally determining this point. The first case was that of an old man severely attacked with *catarrhus vesicæ;* in which the urine was alkaline when passed, had a dreadful smell, and was loaded with a thick, tough or ropy, and adhesive mucus. This at last became so thick that the urine would not flow; and when a catheter was introduced, the eyes or perforations became so clogged and stopped up with this mucus, that not a single particle of urine could pass. In these circumstances, a solution of phosphoric acid, in the proportion of five drops of the acid, as commonly sold, to the ounce of distilled water, and which was afterwards increased to ten, was driven, from an elastic bottle fitted with a gum catheter, into the bladder. The fluid was kept in the bladder for some little time, and then allowed to flow into the utensil. It was still found acid, but, upon filtering and adding ammonia to neutralize the acid, there was a considerable cloudiness, which partly precipitated, partly adhered, in an imperfectly crystallized or plastic form, to the sides of the jar. The urine at last began to flow more freely under the use of the phosphoric acid, both injected externally and exhibited internally; and when the quantity of mucus was reduced, the bladder having been emptied and injected with a solution of phosphoric acid, the washings, on being neutralized by soda, slowly deposited a precipitate, which, on examination, proved to be phosphate of lime. A second case was attended with somewhat similar results.

Upon one occasion only have I had an opportunity of seeing the efficacy of the phosphoric acid in the case of a phosphatic calculus. The case occurred in a person of about 56 years of age. He had been always subject to gravel, and occasionally passed some of the small fragments which I here shew you, and which principally consist of triple phosphate. Some years after, the urine frequently became loaded with mucus, of the character already described, and he was considered as labouring under catarrh of the bladder. Under these circumstances I saw him. The urine was very pale, frequently like spring water, specific gravity insensible to this instrument, neutral, but, in from one to two days, becoming alkaline and cloudy. When the urine was passed in less quantity and more concentrated, it was generally turbid, specific gravity 1·004 to 1·005, contained frequently a good deal of mucus, was alkaline, and of very foul odour. The symptoms characterizing

stone in the bladder were present, and on sounding, which was done at my request, a calculus was felt. The treatment usual in such cases, with the internal exhibition of phosphoric acid, was adopted; and the phosphoric acid, in the proportion of three minims to the ounce of water, injected by an elastic bottle, &c. into the bladder. The injection was kept in the bladder for a few seconds, and then allowed to run off. The strength of the solution was at last increased to ten minims to the ounce of distilled water. As it now irritated a little, a small quantity of tincture of opium was added, and the injection then gave no uneasiness. The injection was used three times every day, and on testing the injection after several times injecting into and escaping from the bladder, by means of caustic potass, the mixed phosphates were thrown down in small quantity. In about three weeks, the calculus which I shew you was voided. You see that the centre consists of a small lithic nucleus, with an external crust of the mixed phosphates. Shortly after this he passed some fragments of triple phosphate, and began to enjoy comparative ease. Directions were given to him, but for a considerable time I have lost sight of him.

It would therefore appear, that in cases of phosphatic calculi, the partial solution of such stones, by means of solvents injected into the bladder, may be attempted not only with safety but with some prospect of success*; and as the mechanical injection of the bladder produces no inconvenience, in the diseased states of this organ attending the phosphatic diathesis, the action of the acid upon the secretion from the mucous lining is calculated to prevent that irritation which this secretion exerts upon the urinary organs. This will tend to check the unnatural state of the urine in this diathesis; and these considerations alone, and independently of any chemical agency upon the stone, would be quite sufficient to justify recourse to the practice. But the injection seems to exert also some solvent agency, however trifling, upon the stone, and thus, by perseverance, at least in the more favourable cases, we may ultimately effect the reduction and expulsion of the calculus; but, at all events, we shall afford considerable relief, and counteract the effects that would otherwise result from the unhealthy state of the urine. Lastly, the phosphoric, as being the acid in excess, selected by nature for holding the constituents of the earthy calculi in chemical solution, seems to be the best adapted for our purpose; because it produces less irritation and may be used of greater strength, and its solvent powers in the present instance are nearly equal to those of the nitric acid. These means, if assisted by the internal use of the phosphoric acid, and those previously mentioned, hold out the fairest prospect in one of the most serious and distressing complaints to which man has been subjected.

Phosphatic concretions in the prostate gland.—When the prostate has become diseased, it is apt to secrete phosphate and carbonate of lime. These concretions, however, as already mentioned, consist principally of phosphate of lime. This is generally cemented or accreted into masses by means of animal matter, and sometimes the quantity of animal matter is so abundant, that, if the earthy salt be dissolved out by an acid, the agglutinating animal matter will still retain the original shape of the mass. I have already shewn you some of these calculi, and they may always be distinguished by their composition and stratified structure. They are mostly small, but there are specimens in the College of Surgeons of a very large size.

With respect to the treatment, it must be mostly surgical, and therefore does not properly come within the sphere of our observations. The medical treatment consists in the occasional application of leeches, fomentations, and the other means of alleviating or subduing irritation; but for further particulars I must refer to the works upon surgery.

Nephritis.—Inflammation of the kidneys, unless arising from some mechanical irrition, is not so frequent as some other internal inflammations. It belongs to the class Pyrexiæ, and is a genus of the order Phlegmasiæ of Cullen. Consequently it commences with the usual symptoms of synocha fever—that is, rigors alternating for some time with heat, till at last an increase of temperature is permanently established. In some instances the febrile symptoms run very high, while in others they are but barely perceptible; but in almost all cases of nephritis the pulse is hard. After the febrile symptoms have been established, the patient complains of thirst, and the tongue is either coated with a yellowish-white mucus, or it is dry and

* I do not think that the salts precipitated from the diluted acid after repeated injection into the bladder, is wholly derived from solution of the calculous mass. It appears to me to be partly derivable from the action on the mucous secretion from the bladder, and partly from intermixture with the urine. The acid, too, would readily dissolve a layer of calculous matter just deposited upon the stone; and hence, in one or two instances in which we examined the injection immediately on its first ejection from the bladder, we found that it precipitated much more copiously on the addition of liquor potassæ, than a fresh solution used immediately after and passed several times through the bladder. Therefore, the solvent action upon the stone itself is probably but trifling, and hence the necessity of patience and perseverance, if we wish to effect any real good.

furred. There is, from an early period, considerable nausea, and for the most part frequent vomiting and retching. There is great anxiety and restlessness; the bowels are at the same time constipated, and not unfrequently a sense of twisting about the navel, and pains like those of colic in the abdomen. The urine at first is red, and, indeed, deeply coloured; afterwards, however, becoming colourless and limpid. When the disease is at its height, there is frequent desire of passing the urine; but very little is voided. If but one kidney be affected, there will be but scanty micturition; but if the inflammation have attacked both, then total suppression of urine will be the consequence. There is also severe pain in the loins, and this is of an acute and burning character, in the region of either one or both, according as the inflammation occupies one or both kidneys. With these there is a sense of numbness of the thigh, and a painful retraction of one or both testicles.

Diagnosis.—Nephritis may be confounded with one or two diseases; for instance, calculus, lumbago, &c. Inflammation will vary in intensity, according to the causes which excite it. Thus the inflammation arising from constitutional causes, is attended with pain of an obtuse character, and much less severe than that which attends inflammation from calculus. This difference probably depends upon the part inflamed. If the pain attacks the glandular portion, where the vessels are larger, the pain will be less; for the pain of inflammation seated in parenchymatous structures is always much less than from that occupying membranous, especially serous, tissues. This, of course, will enable us to account for the much greater intensity of calculous inflammation.

From lumbago (which in the general symptoms frequently so closely resembles nephritis as to be with difficulty distinguished) it may be known by the body being moved with but little increase of pain; whereas the pains of lumbago are much increased by motion. Also, the vomiting, nausea, and cough*, which attend nephritis, will be absent, or not necessarily present in lumbago. Idiopathic inflammation may be still further distinguished from the calculous form, by the pain and uneasiness not extending perfectly along the course of the ureters to the groin, nor is there that painful retraction of the testicles, nor numbness of the thighs, which so constantly attend calculus.

* A cough is said frequently to attend nephritis, and to arise from the inflamed kidney irritating the diaphragm upon which it is said to press.

Causes.—With respect to the causes, they are those of the phlegmasiæ in general. Falls, concussions, and other injuries of the spine and back, will excite nephritis in the predisposed. Hence it has succeeded long-continued and violent horse exercise, more especially if the weather be very hot. Very stimulant diuretics, as turpentine, cantharides, and similar medicines, will bring it on.

Gout and rheumatism appear to act often as predisposing causes, such subjects being especially liable to attacks of nephritis by very slight causes, such are exposure to cold, damp, &c. "Hence these affections appear to constitute the link, as it were, by which inflammation of the kidney is connected with calculus in that organ, this latter affection being apparently produced by the metastasis of gout and rheumatism to the kidney, more frequently than by any other cause*." Be this as it may, the facts are unquestionable, whether the explanation be correct or not. It has also been remarked, that after inflammation, however excited, the kidney is often left in a sort of chronic excitement or irritation, in which it becomes exceedingly disposed to secrete lithic, or even the oxalic acids; and hence it happens, that after the age of forty, calculus is apt to form sooner or later after almost every attack of inflammation of the kidney, or even about the region of the kidney, whether the organ itself has been involved in it or not.

Treatment.—Inflammation of the kidney may terminate in resolution, suppuration, and abscess, induration, gangrene, &c. Resolution is the most favourable, and this should be the object of the practitioner. Therefore, in active inflammation, bleeding, both general and local, and to an extent proportioned to the strength of the patient and the intensity of the symptoms, should be practised. In less severe cases, cupping or leeches to the loins will be sufficient. There is nothing which seems to give such decided relief in inflammatory diseases of the kidney, as the warm bath and hot fomentations to the loins. These, therefore, should be amongst the very first remedies, and should follow immediately after the bleeding. Purgatives should also be given, but of course they must be of that sort which do not specifically irritate the kidneys. Many recommend calomel in active doses. "Internally at the same time, active doses of calomel may be exhibited, either alone or combined with opium or hyoscyamus, according to circumstances; and these may be followed, if the stomach will tolerate their use, by other purgatives, directed more or less to

* Prout on Diabetes, pp. 212, 213.

the kidneys, according to the judgment of the practitioner*."

Mercury, perhaps, as a purgative, is not objectionable; but although this mineral proves beneficial in most parenchymatous inflammations, I think it does harm in all affections of the kidney, that is, if its specific effects on the system be induced. Therefore, it will be better to exhibit mercury solely as a purgative, and for this purpose it may be given with rhubarb or jalap, and its operation subsequently promoted by castor oil or a senna draught; emollient enemata, with or without opium, or hyoscyamus, should also be injected.

As the urine is, as already stated, suppressed, means for restoring the action of the kidneys should he had recourse to. The saline purgatives have this effect to a certain extent; and after the activity of the inflammatory action has been somewhat reduced by the measures above mentioned, they may be given both with the view of keeping up the solubility of the bowels, and to excite the functions of the kidneys.

But, perhaps, there is nothing so effectual for this purpose as large potations of mild or demulcent fluids; hence, linseed tea, gum water, barley water, or even simple water, if drank in sufficiently large quantity, will almost always cause the urine to be secreted, and at the same time relieve the irritation of the urinary organs themselves, which oftentimes is productive of the most urgent distress to the patient. For the same purpose we may give the nitric æther, colchicum, and juniper*, to rouse the kidneys to action, promoting the action by plentiful dilution with mild drinks; and perhaps nothing is better adapted to this purpose than the almond emulsion. The treatment of idiopathic inflammation must be somewhat different from that of inflammation arising from calculi in the kidneys, the management of which has been already detailed. If the symptoms have not completely yielded, but that a sort of chronic congestion remain behind, this should be removed by local bleeding, repeated occasionally, and the application of mustard sinapisms and plasters of ammonia to the loins. When the inflammation is of a gouty character, Dr. Prout states that colchicum is particularly beneficial, and in such instances warm mustard cataplasms must be applied to the feet. During the whole of the attack the most rigid antiphlogistic regimen is to be adhered to.

Suppuration.—In some cases the inflammation terminates in suppuration, and an abscess forms in the kidney. The symptoms of this are somewhat similar to those which supervene suppuration in other parts of the body. When suppuration is about to take place, rigors generally are observed, and when established there are regular periodical exacerbations of fever terminating in succession with all the usual symptoms of hectic fever. But such an event is commonly indicated by the existence of pus, or a muco-purulent matter in the urine; and this, either by its own acridity, or by inducing an acrimony of the urine, produces great irritation both in the bladder and the urethra. The distinguishing characters of pus have been already stated; and if collected and placed in the field of the microscope, or examined in the manner already pointed out, pus may be determined by those properties.

In some cases, however, where the inflammation exists in the parenchymatous structure, and has not extended to the membranous portions of the kidney, the urine may remain clear for some time, and the patient then complains of an obtuse pain, with a sense of weight and fulness in the loins. This may be mistaken for lumbago, but is to be distinguished by the absence of those symptoms already pointed out as characterizing lumbago. After an interval, however, longer or shorter according to the circumstances, the abscess bursts suddenly into the pelvis of the kidney, and a large quantity of pus, often mixed with blood, is passed with the urine, and this is attended with a very great deal of irritation to the patient.

Inflammation of the kidney terminating in suppuration or abscess is generally caused by calculi, idiopathic inflammation more commonly terminating in resolution, hypertrophy, or tubercular induration. When the calculus is retained, sometimes the pus is not discharged with the urine, and the patient continues to suffer for a long period from a number of very distressing symptoms. In some such cases the abscess may point externally, and the pus may be evacuated from the loins. In some, the abscess has burst into the abdomen, and then it mostly proves speedily fatal. In the majority of cases, however, the ureter remains partially pervious, and pus continues to be observed occasionally in the urine, and at times small calculi and blood are voided. If the calculus remains, and that means be not adopted to arrest its growth, it is evident it must ultimately prove fatal, or will most certainly completely disorganize the kidney.

A peculiar kind of suppuration and

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* Ibid. pp. 218, 219.

† I have found the following often very serviceable:—

R. Infusi Juniperi, drs. x.; Spir. Æth. Nitric. dr. ss.; Vin. Colchici, min. x.; Tinct. Hyoscyam. min. xx. M. ft. haustus secundis vel tertiis horis sumendus.

abscess, partaking of a scrofulus character, has been noticed by many persons. This may or may not be complicated with calculi. The symptoms are often very obscure. In the latter and chronic stages of this complaint, Mr. Howship observes, the pain is almost invariably referred to the neck of the bladder. This, however, only takes place in the latter stages, as Dr. Prout mentions an instance which came under his own observation, in which the pain was entirely confined to the regions of the kidney and ureter, and the urine in this case was acid, and, excepting its containing pus, not very unnatural. In those cases, in which there is pain in the bladder, the urine will be generally found alkaline, and very fetid and unhealthy, and hence the pain in the bladder may be looked upon as arising from the acrimony of the urine. "The cases of this scrofulous affection of the kidney," says Prout, "that I have seen, have also been attended with indolent tumor and abscess of the inguinal glands, and by occasional pain and swelling in the testicles. They were accompanied by great extenuation of the body and derangement of the general health, and ultimately proved fatal*."

Abscess of the kidney must be treated on the same general principles as abscess and suppuration in other parts; that is, the patient's strength must be supported by such remedies as will enable the system to bear up against the debilitating effects of the discharge, and its consequences—the hectic paroxysms. Setons or issues, also, should be inserted in the loins, and they very often prove extremely beneficial. When calculus is the exciting cause, the means already pointed out, and adapted to the particular or existing diathesis, must be carefully and cautiously employed. To relieve pain, anodynes, and especially hyoscyamus, must be given in sufficient doses; and they may often be beneficially had recourse to in the shape of suppositories or clysters. Astringents, as the uva ursi, either as infusion or extract, must also be given. The mistura amygdalæ, with the compound tincture of camphor, I have often found to allay the pain and irritation of the bladder and urinary organs more effectually than any other remedies. There are many who use copaiba and the different balsamic medicines in such cases; but the propriety of all stimulating remedies seems extremely doubtful, if not absolutely injurious.

Indeed, in all chronic affections of the kidney, it is of the utmost moment to attend particularly to the state of the urine; for if this be neglected, a great deal of mischief may be done. Of course, we must always ascertain whether there be any calculous diathesis present; and the means adopted must be regulated accordingly. But in abscess, as the urine by becoming alkaline is rendered highly irritating to the bladder, an acid should be exhibited. The best, perhaps, is the phosphoric; but in the peculiar circumstances under consideration, I have found chlorine best adapted: it has often seemed to me to excite a healing process in the abscess of the kidney. In all cases, too, of suppuration, the tinctura ferri sesquichloridi will be found a most valuable tonic. When there is a scrofulous diathesis present, the ferri iodidum may be given, in doses proportioned to the age and habits of the patient.

Induration cannot be determined by any characteristic symptoms; and if it could, it would have to be treated upon general principles. The iodide of iron, if there be no positive inflammatory action present, would be an appropriate remedy.

Gangrene may be known by the symptoms which usually attend upon this termination of inflammation. They are—sudden cessation of the pain, sinking, with irregularity of the pulse, which at last becomes intermitting; pale, anxious, and distressed countenance; sharpening of the features; cold, clammy, and viscid sweats; and ultimately hiccough. In such circumstances the case is hopeless, and the disease speedily proves fatal.

* On Diabetes, &c. p. 216.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S. Sorbon.

INFLAMMATORY DISEASES OF THE GLOBE OF THE EYE.

Conjunctivitis.—Simple conjunctivitis.—Conjunctivitis with chemosis.—Partial conjunctivitis.—Papular conjunctivitis.—Granular conjunctivitis.

We are now about to commence the study of the department of pathology which deserves more especially the name of ophthalmology. The various inflammatory affections of the palpebræ might justly be treated apart from diseases of the eye, as these organs are merely the "tutamina oculi," destined to protect it from the action of external agents. Thinking it, however, better to follow the course usually pursued by authors, when treating of

this subject, I have, in my former lectures, given an account of the different forms of blepharitis. I shall now proceed to examine the inflammatory affections of the conjunctiva, the cornea, and the iris. I also intend making a few observations on what has been called *sclerotitis*. These diseases I shall consider as purely inflammatory, as existing without any complication, and entirely independent of specific causes, reserving until a latter period the examination of the influence which these causes may exercise on ophthalmia in general. By thus gradually proceeding from what is simple to what is compound, our ideas will necessarily be more clear and more precise than were we to follow any other method.

The characters which serve to distinguish the inflammatory disease we are about to examine, are drawn, in a great measure, from the vascular appearance of the affected tissues. The importance of this symptom has been so generally admitted, that in these later times many anatomical researches have been undertaken, with the view of throwing additional light on the distribution of the vessels of the eye. As I think it indispensable that you should be acquainted with the results of these researches, I shall enter into a few details on the subject.

Nearly all the arteries of the eye derive their origin from the ophthalmic branch given off from the internal carotid. The divisions of this artery, you are well aware, do not all follow the same direction, or terminate in the same tissues. Viewed in this light, they may be divided into four sets. Some supply the eyelids, others the conjunctiva; some, again, are distributed to the sclerotica, whilst others pass into the interior of the eye. These groups anastomose freely with one another.

The arterial network of the eyelids is principally formed by three branches—the nasal, the lacrymal, and the frontal arteries. These arteries, however, are only distributed to the mucous surface of the palpebræ, and to their free margin; the cutaneous surface is supplied by the temporal, the infra-orbital, the transversal, and angularis faciei. Thus the arterial circulation is carried on by two different sets of vessels, which anatomical fact may account for our meeting separately with the different forms of blepharitis.

The conjunctiva also presents two distinct sets of arteries. Some of these are given off by the branches we have seen supplying the mucous surface of the palpebræ, the remainder are ramifications of the superior and inferior muscular branches. These arteries are exceedingly numerous; they may be seen presenting the appearance of tortuous, arborescent filaments, frequently anastomosing with one another, moveable at the centre of the ocular conjunctiva, immoveable near the cornea and near the fixed margin of the tarsal cartilages. Near the cornea, they communicate with the arteries of the sclerotica, and with those of the interior of the eye; near the tarsal cartilages, with the arteries of the external surface of the eyelids. In some cases of intense simple conjunctivitis, these small vessels may be seen extending more or less on the cornea.

The sclerotica receives but a small number of arteries, nearly all of which are supplied from the muscular branches. These vessels present but few ramifications; they communicate, in their course, with the arteries of the conjunctiva and those of the interior of the eye, and at their termination contribute to form the vascular circle round the cornea, which we are about to examine.

The ciliary branches are the only arteries supplying the interior of the eye, to which I shall direct your attention; their mode of termination, on arriving at the ciliary circle, should be attentively studied. Some of these arteries pass outwards, and then, becoming reflected, anastomose with those of the conjunctiva and sclerotica; others, passing inwards, supply the iris, whilst a few, following their primitive direction, reach the cornea. The circumference of the cornea may, therefore, be termed the conflux of the arteries of the eye, as it is the seat of the vascular communication which exists between the exterior and the interior of that organ. The existence of this kind of external conflux bears so directly on the pathology of the eye, that it is indispensable you should be perfectly acquainted with the arteries by which it is formed.

The venous circulation of the eye is of but little importance with regard to the study of ophthalmology. The distribution of the veins, moreover, being nearly the same as that of the arteries, I shall not detain your attention any longer on this subject, but enter at once into the examination of the inflammatory affections of the eye, beginning by those of the external or mucous surface.

Conjunctivitis.

The ocular and palpebral conjunctiva being formed of the same anatomical elements, are consequently subject to the same forms of inflammation, with the exception of those inflammatory affections which attack the free margin of the palpebræ. The symptoms, however, are much more decided, much easier recognized, when the mucous membrane of the eye is inflamed, than when that of the palpebræ is affected.

The division we adopted for blepharitis will, therefore, in a great measure, be ap-

plicable to conjunctivitis or inflammation of the ocular conjunctiva. The affections which this general term comprise are the following:—

1. Simple Conjunctivitis.
2. Conjunctivitis with Chemosis.
3. Papular Conjunctivitis.
4. Granular Conjunctivitis.
5. Purulent Conjunctivitis.

This division is not arbitrary, as some persons might feel inclined to suppose; it is founded on an attentive and lengthened observation of disease, and you will see that its utility is not merely theoretical when we arrive at the treatment of conjunctivitis. Those of you who follow the practice of this hospital, must be well aware that these forms of disease are frequently met with; indeed we have now in our wards patients on whom you may observe each of the affections I have mentioned. I will, in the first place, describe the anatomical and physiological symptoms of each form of inflammation, and then examine at length the various agents we can employ in their treatment.

Simple Conjunctivitis.

This form of inflammation—the mildest we shall have to examine—is also the most frequent. The anatomical characters by which we may recognise it are the following:—the conjunctiva becomes of a deep or pale red colour; the redness, however, is not constant, being sometimes modified by a yellow, purple, violet, or brick-red tinge. On the surface of the eye we distinguish a great number of small vessels of variable calibre, interlaced in many directions. Their mobility—the ease with which they are displaced, on pressing the eye with the finger, through the medium of the lower eyelid—shew plainly that they belong to the conjunctiva. The nearer to the cornea you examine these vessels, the smaller and the less moveable you find them. They either terminate imperceptibly near the circumference of that membrane, or, becoming inflected, anastomose with the vessels of the eye. When the inflammation is intense, we sometimes see a few arterial filaments, reaching the cornea, advance more or less on its surface. The white colour of the sclerotica is still easily perceived through the injection of the conjunctiva.

To these, the anatomical symptoms, we must add those which are entirely functional. The secretion of mucus, which is much increased, varies considerably in its physical characters: in some instances, clear, limpid, and transparent, it flows, more or less abundantly, over the eyelids, often producing an eczema of the parts over which it passes; in others, on the contrary, it is opaque, and being detained by the cilia during sleep, concretes on the free margin of the eyelid, so that when the patients awake, they find their eyelids glued together. The mucus, also sometimes accumulates in the inner angle of the eye.

The secretion may be entirely suppressed, in which case the mucous membrane becomes dry, and presents a shining appearance. This symptom deserves particular attention, as there is reason to fear its being the commencement of a very serious disease, *xerophthalmia**. A circumstance which is also worthy of remark is, that in simple conjunctivitis we meet with neither photophobia nor shedding of tears. Several ophthalmologists of merit, M. Jungken for instance, have asserted that these symptoms are generally present; their opinions, however, on this subject are incorrect, and must have been founded on cases presenting some other lesion. The visual functions are not in the least disordered in simple conjunctivitis, or, indeed, in any of the forms of inflammation we are now examining, unless there be chemosis to such an extent as nearly to conceal the cornea. This circumstance should be kept in mind, as it may be extremely useful in establishing the diagnosis. The pain felt by the patient is slight, and seems merely to consist in the peculiar sensation of an extraneous body on the surface of the eye, which we have already met with in mucous blepharitis.

Conjunctivitis with Chemosis.

When the inflammation runs high, the symptoms we have just described become more intense, and chemosis sometimes supervenes, in which case the eye assumes a most peculiar appearance. The conjunctiva is uniformly of a deep violet colour, and the injected vessels which give rise to the vascularization are no longer to be distinguished from one another. The tissue of the conjunctiva is considerably thickened, and the cellular layers on its internal surface, which separate it from the sclerotica, become infiltrated with blood, so that the white colour of the sclerotica is completely hidden from view. The surface of the eye, of a fungous consistence, and a livid hue, presents a peculiar dotted appearance, similar to what we meet with in the cerebral substance after congestion of the brain. The conjunctiva thus tumefied, thus thickened, more or less elevated above the usual level of the globe of the eye, forms a complete

* In the 16th number of "La Presse Médicale," Feb. 1837, will be found an interesting article, by M. Jeanulme, on this affection, the cuticular conjunctiva of Mr. Travers. M. J. gives a detailed account of several cases which have occurred in the wards of MM. Velpeau and Sanson, and has thus thrown additional light on the nature of a disease to which pathologists have hitherto paid but little attention.

circle round the cornea; indeed the chemosis is sometimes so great as to cover a great portion of the cornea, and consequently to greatly impair the visual functions of the eye. Chemosis is not only interesting as a morbid symptom, but also in an anatomical point of view; for although the limitation of the swelling of conjunctiva does not incontestably prove that the mucous membrane of the eye terminates at the circumference of the cornea, it nevertheless establishes, as an undeniable fact, that in this region it becomes extremely adherent to the subjacent tissues.

This, theinflammatory form of chemosis, may be compared, in many respects, to the phlegmonous erysipelas of other parts of the body, and might be termed the phlegmonous variety of chemosis—the tumefaction and swelling of the conjunctiva, which constitute this disease, not being always the result of violent inflammation, as most authors have asserted. It is, indeed, now generally admitted that chemosis is not, properly speaking, a disease, but merely a morbid symptom, generally the result of intense inflammation, sometimes, however, to be attributed to altogether different causes. The subconjunctival cellular layers may become infiltrated with serosity, and that not only in persons of a lymphatic constitution, but also in those who are young and robust, although the inflammation has been but very slight. The mucous membrane becomes tumefied by the accumulation of a serous fluid in the lamellæ of its tissue, without, however, presenting the characters I have described as accompanying the inflammatory form. The colour, instead of being of a dark-red or violet hue, is white, inclining to yellow; and the swollen tissues do not present the tense, elastic, turgid appearance we before noticed. The conjunctiva may, it is true, become considerably tumefied; but its tissue is flaccid, partly retaining the impression of the finger. In the phlegmonous form of chemosis there is often violent pain, caused by the compression of the eye by the chemosis; in this, the serous or œdematous form, there is, on the contrary, little or no pain.

These two forms of chemosis are evidently distinct, and ought not to be confounded; you will now, however, I think, be able at once to distinguish them.

Partial Conjunctivitis.

The inflammation does not always attack the entire ocular conjunctiva; it may occupy a portion only of its surface. When this, the partial form of conjunctivitis, is not caused by external injury, it is generally to be met with near one of the angles of the eye, more especially near the external angle, and has consequently been called angular conjunctivitis. The inflamed surface is more or less circumscribed, and forms a kind of triangle, the basis of which is turned towards the cornea, and the summit towards the angle of the side affected. The appearance it presents might not inaptly be compared to that of a slight ecchymosis, presenting small moveable tortuous vessels, some of which extend beyond the limits of the inflammation. I shall not enter into any further detail respecting this affection, as, with the exception of the peculiar appearance, it is in every other respect similar to simple conjunctivitis.

Papular Conjunctivitis.

Accompanying inflammation of the conjunctiva, we sometimes observe on the mucous surface a kind of small papula, which has been generally confounded with ulceration of that membrane. We have now in our wards several patients presenting this form of the disease, and we have frequently cases of a similar nature. Were you to examine them attentively, you would find that the abnormal appearance is not to be attributed to the presence of ulceration, but is occasioned by small aphthæ, analogous to those we meet with on the mucous membrane of the mouth. The mucous tissue which covers these papulæ would necessarily be destroyed were ulceration to exist; this, however, is not the case; there is no ulcerated surface, but merely small circumscribed tumefaction of the conjunctiva, which, by the friction they exercise on the internal surface of the eyelids, give rise to the peculiar sensation I have so frequently alluded to —that of an extraneous body between the eye and the eyelid—and are, as long as they remain, a source of continual irritation to the eye.

Granular Conjunctivitis.

Most of the characters which I gave when speaking of granular blepharitis, may be applied to granular inflammation of the conjunctiva. There are, however, some few symptoms peculiar to this affection, which I must not omit to mention. The inflammation of the mucous follicles —for they are evidently the seat of the disease—may be either acute or chronic. It is impossible to deny the existence of the acute form of this disease, although the chronic is by far the most frequent. We have had, indeed, lately, several patients in our wards presenting the former or acute form of inflammation; and many of you, no doubt, will remember perfectly well having seen them: and why, I ask, should not the follicles of the mucous membrane of the eye become primitively

inflamed, as well as the follicles of other tissues of a similar nature?

The more prominent characters by which we may recognise this affection are the following:—The mucous surface of the conjunctiva is of a paler red, and the vessels are less distinct, than in simple conjunctivitis; the colour is also, in most instances, uniformly the same. On examining minutely the conjunctiva, we find it covered with an immense number of granulations, of variable size, which are sometimes congregated together, as it were, on one portion of the mucous membrane, sometimes more or less separated from one another. When the disease persists, the conjunctiva assumes a velvety appearance. As in granular blepharitis, the mucous secretion varies in its physical properties. Sometimes it is increased, and then it may be limpid, opaque, and thick, or purulent; sometimes, on the contrary, the secretion is diminished, or even entirely suppressed; and should this suppression continue during any length of time, we might fear its being a symptom of incipient xerophthalmia. There is neither photophobia nor shedding of tears, these two symptoms, as I have already remarked, being absent in every form of conjunctival inflammation, unless accompanied by keratitis or iritis. The visual functions are not at all disordered. The sensation of foreign bodies on the surface of the eye is, as might be expected, extremely well marked.

This form of conjunctivitis appears identical with the disease described by German authors under the name of *catarrhal ophthalmia*, although many of the symptoms they mention are common to the various forms of conjunctivitis we have already examined. I shall not, however, discuss this question now, as we have agreed to defer the examination of "specific affections" until a later period.

Such are the different forms of conjunctivitis which attentive observation enables us to distinguish. Generally speaking, these affections are combined with one another; indeed, the cases in which you find them isolated are comparatively rare, as we have already seen it to be the case with the various forms of blepharitis.

I have yet to speak of purulent conjunctivitis, to complete the description of the inflammatory affections of the mucous membrane of the eye. As, however, the only resemblance between this disease and those we have just examined is in the seat of the inflammation being the same in both cases, I will first give you the treatment of the different forms of conjunctivitis we have passed in review.

CLINICAL REPORTS

OF

DIFFICULT CASES IN MIDWIFERY.

By Robert Lee, M.D., F.R.S.

Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital.

[Continued from p. 670.]

SECOND REPORT.

Cases of Accidental Uterine Hæmorrhage.

Case XXXII.—Mrs. Lassiere, Oxenden Street, June 4, 1836, a patient of the late Mr. Saunier's, was, on three different occasions, attacked with dangerous uterine hæmorrhage immediately after the birth of the child. During the last of these attacks, which had nearly proved fatal, I was called to see her after the placenta had been extracted; and the discharge of blood was checked with great difficulty, by the introduction of ice into the vagina, the application of cold water to the nates, external parts, and thighs, and the use of the pad and binder.

On the 3d of June, 1836, this patient being at the full period, and labour commencing, Mr. Saunier consulted me respecting the treatment which ought to be adopted, to prevent the recurrence of such a dangerous accident. I advised him immediately to discharge the liquor amnii by rupturing the membranes, and not to wait for the dilatation of the orifice or the pains becoming stronger; to apply the binder round the abdomen, and tighten it as the labour advanced; to leave the expulsion of the child entirely to nature; to avoid the use of stimulants; and preserve the apartment cool.

This was done, and the uterus contracted after the delivery of the child, and the placenta was expelled without assistance in less than an hour; and so little hæmorrhage followed that it was easily restrained by the application of a napkin, soaked in vinegar and water, to the parts.

I have repeatedly employed the same practice, with the most satisfactory results, in other individuals who had been repeatedly exposed to the greatest danger from hæmorrhage after the expulsion of the child and placenta. The exhibition of the ergot of rye is also indicated in these cases, towards the end of the second stage of labour.

Case XXXIII.—At one o'clock in the morning of the 23d March, 1829, I was called, by Mrs. Finlay, to a Dispensary patient, residing at No. 10, Great Earl Street, who was attacked with uterine hæmorrhage in the first stage of labour. The orifice of the uterus was widely dilated, the pains had entirely gone off, and there was great faintness and collapse of the features. I immediately forced my finger through the membranes, held up the head, that all the liquor amnii might flow out, and compressed the uterus above, and gave some stimulant internally. Strong labour-pains soon came on, and a dead child was expelled. The placenta followed, and no hæmorrhage afterwards took place. Nothing could answer better than did rupturing the membranes in this case.

Case XXXIV.—Mrs. Brodrick, 33, Tyler Street, a patient of the St. George's and St. James's Dispensary, 28th June, 1824, at 4½ A.M. without any accident, was seized with uterine hæmorrhage and slight pains. At 2 P.M. several pints of blood, in a coagulated state, had escaped. The os uteri slightly dilated, and little affected by the pains. I ruptured the membranes, which had now become tense during the pains, and were protruded a little through the orifice. The flooding immediately ceased, the pains became much stronger, and at 7 P.M. the child was expelled alive. A great flooding followed, but it ceased on the removal of the placenta, the application of cold water to the external parts, and the binder firmly round the abdomen.

Case XXXV.—On the 4th September, 1834, I was called to see a woman in the ninth month, who was attacked with uterine hæmorrhage after a violent quarrel. The os uteri was rigid, and very little dilated. The membranes could be felt all round. The vagina had been plugged, and several doses of the ergot of rye given. She was extremely faint. The membranes were ruptured, and she did well.

Case XXXVI.—On the 22d June, 1837, Mr. Walker, of Marylebone Street, called me to see a patient who had a profuse discharge of blood from the uterus very soon after the commencement of labour. The hæmorrhage always increased when the pains went off; she was faint and restless, and was constantly throwing the arms about, and yawning. The upper part of the vagina was filled with clotted blood. The os uteri was soft and considerably dilated, and the membranes were felt all round, and no part of the placenta. The hæmorrhage ceased immediately after rupturing the membranes; and in an hour the child was born, and the recovery was rapid.

Case XXXVII.—On the 24th August, 1837, Mr. Gosna requested me to see a private patient, who, after a slight fall, had been seized with a flooding in the eighth month. As the discharge was not very profuse, and the pulse was little affected, I recommended rest in the recumbent position, and other means, to be tried before rupturing the membranes. The placenta was not felt at the neck of the uterus.

The hæmorrhage went off for about a week, and then returned to so great an extent, that Mr. Gosna discharged the liquor amnii, and the labour was happily completed in a few hours.

Case XXXVIII.—About the same period I was called by Mr. Wise, of Princes Street, to a case of flooding in the first stage of labour. I immediately ruptured the membranes, and the child was soon expelled, without any return of the discharge.

Case XXXIX.—On the 30th June, 1837, Mr. Balderson requested me to see Mrs. H., who was attacked with uterine hæmorrhage in the ninth month of pregnancy. The placenta did not present. I ruptured the membranes at 8½ P.M., when the os uteri was very little dilated. A dead child was expelled at 11 o'clock; and the placenta, which had been wholly detached, immediately after descended into the vagina. A violent rigor and great faintness followed the birth of the child, but she recovered in the course of a fortnight.

Case XL.—On the 20th November, 1837, a lady, who had been repeatedly delivered by the late Dr. Hugh Ley, was, without any premonitory symptoms, attacked with a violent flooding at the commencement of the ninth month of pregnancy. I found the os uteri soft, and a little open. There was a sense of weight and dull pain in the region of the uterus, but no regular ute-

rine contractions. The hæmorrhage was going on when I ruptured the membranes. It immediately after ceased, and in about two hours a dead child was expelled, with the umbilical cord round the neck.

I considered this to have been the cause of the detachment of the placenta, as it probably was in some of the other cases related in this report.

Case XLI.—At 4½ A.M., 13th May, 1830, I was called to Mrs. P., æt. 25, residing at 22, Gresse Street, Rathbone Place, by Mrs. Wright and Mrs. March, the midwives in attendance. About eight o'clock the preceding evening, this patient being in the ninth month of pregnancy, began to have slight labour pains, and a considerable discharge of blood from the uterus. The pains continued during the night feeble, and recurring at long intervals. At 2 A.M. the flooding increased, and a large quantity of blood was lost. She did not appear, however, greatly exhausted when I first saw her, at 4½ A.M. There were no labour pains; the os uteri was slightly open, and dilatable. I passed up my finger into the os uteri, removed the clots of blood adhering to it, and ruptured the membranes. On the discharge of the liquor amnii the flooding ceased. By pressing with the finger all round the os uteri, strong pains came on, and the head of the child was soon forced down into the pelvis and expelled; it was alive. A broad binder was placed round the abdomen before the expulsion of the child, and was afterwards tightened. The placenta came away without difficulty, and the uterus contracting firmly, no hæmorrhage followed. The patient suffered little after from the great loss of blood she had sustained.

Case XLII.—A private patient of Mr. Gardiner's, Foley Place, was attacked suddenly in the night with a most alarming hæmorrhage from the uterus. She was in the ninth month, and was in perfect health the previous day, and had been exposed to no accident. I saw her three hours after the flooding commenced; the pulse was extremely feeble, and there was great faintness, with laborious breathing. The os uteri was very little dilated, and on passing the finger I felt the smooth membranes all round. I ruptured the membranes, and gently dilated the orifice with two fingers. The hæmorrhage immediately ceased, and the pains becoming strong and regular, the child was expelled dead in an hour and a half. The placenta being wholly detached, followed the child; and a hæmorrhage, which had nearly destroyed the patient, again took place. Strong compression of the abdomen, and the vigorous application of cold to the external parts and nates, with stimulants, soon arrested it, and the patient was soon perfectly restored to health.

Case XLIII.—At 5 A.M. on the 29th November, 1833, a female, aged 30, and eight months pregnant, was attacked with uterine hæmorrhage. At 11 A.M., when I first saw her, about two quarts of blood had been discharged, and she was pale and very faint, and the pulse could scarcely be felt.

The os uteri was dilated only to the size of a shilling, and the edge thin and soft. The membranes were felt all round, and tense. The flooding continued, with slight irregular pains. I applied the binder round the abdomen, and immediately ruptured the membranes and discharged the liquor amnii, after which strong pains came on, and the flooding ceased. The child, which presented naturally, was expelled dead in less than an hour. The binder was tightened, and in two minutes the placenta, with a great mass of dark coagulated blood, was expelled. A stream of florid blood suddenly began to flow from the vagina, and the most alarming degree of prostration of strength followed all at once. For several hours she was in a state almost of insensibility, without any pulse at the wrist, and at one time seemed beyond the reach of recovery. The discharge being, however, effectually checked by the introduction of ice into the vagina, and the dashing of cold vinegar and water over the external parts, and the strength supported by stimulants, she eventually did well.

An immense quantity of blood was lost in this case, yet the health was not permanently injured.

Case XLIV.—On the 9th September, 1836, at 10 P.M., I was called to Mrs. ——, residing at Little Chelsea, who was eight months pregnant, and had fallen down stairs a week before. Hæmorrhage to a great extent had taken place last night, which caused faintness.

The discharge ceased, and returned again this afternoon, and it has continued till the present time. The medical gentleman in attendance had examined, and thought the placenta was over the orifice of the uterus; but the membranes were felt all round, and I could touch no part of the placenta. The orifice of the uterus was considerably dilated; the head presented; slight pains; face pallid; pulse extremely weak; flow of blood continues.

On rupturing the membranes a great quantity of liquor amnii escaped. The binder was next applied, and the orifice of the uterus gently dilated during the pains. The child was soon expelled, with the cord twisted tightly twice round the neck; it breathed for a few seconds, and then died. The placenta being detached, was soon after extracted, as the flooding still continued. By firm pressure over the fundus uteri, the external application of cold and stimulants, it was at last arrested, but not till the strength of the patient was almost completely exhausted. Twelve hours after the extremities were cold, the respiration laborious, and the pulse could scarcely be felt. The circulation was restored in other twelve hours, and she recovered perfectly well.

I would interfere earlier in a similar case, and not trust so confidently to rupturing the membranes.

Case XLV.—An out-patient of the British Lying-in Hospital was attacked with flooding about the middle of November, 1835, when seven and a half months pregnant. The discharge was not very great, and it produced no great effect upon the constitution. On the evening of the 17th December, 1835, it returned in a much more formidable manner, and continued through the night; and on the following morning, when I first saw her, she was faint and pale, and the blood was still flowing profusely from the vagina. The whole of its upper part was filled with coagulated blood, which led to the supposition that the placenta presented, which was not the case. The os uteri was soft, thin, and dilated to the size of a crown or more. The smooth membranes were felt all round, and the head presented. When a binder had been applied firmly round the abdomen, I ruptured the membranes, which I found difficult, from their never being put upon the stretch by the pains. Regular labour pains soon came on after the membranes were ruptured, though the flooding was not entirely suppressed, and in two hours the child was expelled dead. The umbilical cord was round its neck. A large portion of the placenta was covered with a thick dark clot of blood. The structure of this portion of the placenta presented nothing peculiar.

It would have been better had this patient been delivered twelve hours earlier, by turning or craniotomy. She was so greatly exhausted by the loss of blood, that for some days it was doubtful if she would recover.

Case XLVI.—On the 11th November, 1837, Mrs. Richards, 17, May's Buildings, was suddenly attacked with uterine hæmorrhage when near the end of the ninth month of pregnancy. A quart of blood escaped in a few minutes, which produced a disposition to syncope. I found the os uteri soft and dilatable, but little opened; the head presented; no uterine contractions; faintness gone; pulse 90, and not very weak. The horizontal position, cold applications, &c. were recommended, and I left the case to nature, and did not rupture the membranes, which I now think ought to have been done.

Regular labour pains commenced soon after my visit, and continued all the evening till midnight, when the delivery was safely effected, without artificial assistance of any kind. The small portion of placenta which had been detached, and had given rise to the flooding, was seen covered with a firm layer of coagulated blood.

Case XLVII.—1828. A lady in the eighth month of pregnancy, while dressing for dinner, was alarmed with a profuse discharge of blood from the uterus; it continued till she fainted and fell down insensible on the floor. The pulse soon after was full and frequent, and the attack was preceded by a sense of weight and uneasiness in the hypogastrium. Twelve ounces of blood were drawn from the arm, ice in a bladder was laid over the region of the uterus, and she was kept in a state of rest, in the recumbent position, for several days. The discharge ceased, and she went to the full period, and was delivered of a healthy living child; but after the expulsion of the placenta a dan-

gerous hæmorrhage followed, which was checked with difficulty by pressure and the application of cold water externally. She recovered, and was able to suckle her child.

[To be continued.]

CLINICAL OBSERVATIONS
ON
THE USE OF THE AIR-DOUCHE IN THE DIAGNOSIS AND TREATMENT
OF
DISEASES OF THE EAR.

By T. Wharton Jones, Esq.

[*For the London Medical Gazette.*]

No. II.

In the case which I related last week, the increase of the hearing power manifested from day to day was a warranty to persevere in the same treatment, until improvement should, under its influence, go no further, or until the cure should be complete. The result was, that the hearing rose to the common natural standard; the means of diagnosis becoming at the same time the means of cure. In the following case, the treatment by the air-douche was persevered in until the hearing on one side was raised to the natural standard, and on the other improvement would go no further.

Case II.—*Some affection of the auditory passages—Opacity of the left membrana tympani—Clogged state of the tympanic cavities from accumulated mucus—Eustachian tubes pervious.*

Master C. D., betwixt 12 and 13 years of age, was brought to me by his mother, in the beginning of March, 1838, who stated her son had just been sent home from school, being no longer able to go through his exercises on account of increasing deafness. The deafness, I was informed, had been first observed to come on after the measles, about four or five years ago. Is subject to catarrhal attacks in the nose and throat; has been under treatment without advantage.

The young gentleman could hear my watch with both ears at a distance only of an inch and a half. Thick lips; the nose broad at its root, and the state called epicanthus, *i. e.* folds of skin extending from the sides of the root of the nose over the inner canthi; together with an habitually loaded tongue and enlarged tonsils, were points in the constitution of the patient worthy of being noted.

On examining the auditory passages, I found them not stopped up, but scales of unhealthy wax adhering to their walls, and projecting into their interior, so as to prevent my obtaining a view of either membrana tympani.

> Auditory passages directed to be syringed out every second night, and a solution of the acetate of lead (gr. iij. to ʒj.) to be poured in two or three times a day.

Mrs. C. D. being anxious that her son should not be kept from his studies, especially as it was now so near the Easter holidays, when he should, of course, be at home for some time, he was allowed to return to school with the above prescription. Under its use the hearing improved so far that the scholastic exercises were gone through without marked impediment, which induced the master to write home, saying his pupil's hearing was restored.

Thursday, 12th April.—Has just returned from school, to remain at home during the Easter holidays.

On examining the auditory passages, I found them free; but at one or two places there was a small scab. The membrana tympani of the right side was pretty natural—perhaps only a little red. The membrana tympani of the left side was quite opaque, and presented large dark-coloured varicose vessels streaming through its substance. It was still sensible to the touch of a probe.

Saturday, 14th.—The hearing distance is now eight inches on the left side, and five inches on the right.

Introduced a catheter into the Eustachian tube of the right side, and blowing simply with the mouth, found it admitted the air. The hearing distance was immediately raised to seven or eight inches. The Eustachian tube of the left side impervious to a stream of air blown from the mouth.

Monday, 16th.—In consultation with Sir James Clark. Having stated the results of my examinations of the case, and that I believed there existed an accumulation of mucus in the tympana, which would require the employment of the air-douche to disperse, it was resolved, before having recourse to that,

to exhibit some general remedies calculated to improve the state of the mucous membranes. The throat and tonsils being red and swollen, but not affected with any acute inflammation, were ordered to be pencilled daily with a solution of lunar caustic.

Friday, 20th.—Hearing distance on right side nine inches; on left side eight inches.

Sunday, 22d.—Throat improving.

Monday, 23d.—Hearing distance on right side one foot and a half; on left side eleven inches and a half.

On another day in the course of this week the hearing distance had, on the left side, risen to one foot one inch and a half; but on the right side fallen as low as three inches and a half.

Saturday, 28th. — Hearing distance on both sides eleven inches and a half. To leave for school on Monday.

Saturday, 23d June.—Returned from school for the Midsummer holidays. Hearing distance of the right ear about six or seven inches; of the left about twelve or thirteen inches.

Has had since last report, while at school, several attacks of ear-ache in the right ear.

To rub tartar emetic ointment behind this ear.

Monday, 2d July.—Hearing distance of the right ear about one foot; of the left ear fourteen or fifteen inches.

Friday, 6th.—Sent in a stream of air, by means of the air-press, through a catheter introduced into the right Eustachian tube, whereupon the hearing distance was raised to one foot eleven inches. Threw in a stream of air on the left side also, after which the hearing distance was increased to one foot eight inches and a half.

During these applications of the air-douche, I found that, on the left side, the air penetrated less freely, and with more gurgling, than on the right side.

The good result of the first essay with the air-douche in this case confirmed the diagnosis I had ventured to draw from my previous observations, especially from the examination made by blowing air through the catheter with the mouth simply, and emboldened me to pronounce a favourable prognosis, qualified only by this—that, considering the extent to which the left ear had suffered from inflammation, as indicated by the opaque and thickened state of the membrana tympani, it was not likely to be so much improved as the right, in which no marked organic change could be detected. This prognosis, though verified by the event, had like to have been contradicted by the unfavourable turn the case took during the three following days.

Saturday, 7th.—Had an attack of ear-ache in the right ear this morning, in consequence of which the hearing distance has fallen to fourteen inches. The left ear, however, has still further improved, viz. to two feet and a half.

Sunday, 8th. — Ordered to-day six or eight leeches, to be applied around the right ear; and the tartar emetic ointment, as prescribed on the 23d June, to be continued. Sweet oil to be dropped into the ear, which is to be syringed with lukewarm water at bed-time.

Monday, 9th.—The leeches have been applied, and the cheek is swollen in consequence. No return of ear-ache, but the hearing distance has fallen on the right side to three inches, and on the left side to eight inches.

Introduced a catheter into the Eustachian tube of the left side without causing any pain, and applied the air-douche. The air entered with a rushing sound at first, and on increasing the force of the stream, with a gurgling sound. After this the hearing distance was, on the left side, ten inches.

Friday, 13th.—No longer any tenderness of the ear. Hearing distance on the right side, fourteen inches; on the left side, one foot nine inches.

Applied the air-douche to the right ear, after which the hearing distance was raised to two feet.

Monday, 16th.—Right ear, two feet and a half; left ear, two feet.

Applied the air-douche to the left ear, by which the hearing distance was raised to two feet eight inches.

Tuesday, 17th.—Right ear, two feet eight inches; left ear, three feet.

Applied the air-douche to the right ear, after which the hearing distance rose to three feet nine inches and three-quarters.

Wednesday, 18th.—Right ear, four feet two inches; left ear, two feet ten inches.

Applied the air-douche to the left ear, without any change in the hearing distance immediately resulting.

Thursday, 19th.—Right ear same as

yesterday; left ear, three feet three inches.

Applied the air-douche to the right ear. The stream was allowed to be a little more powerful than usual, which caused some pain. A rushing sound was first heard, until the force of the stream was increased, when a gurgling noise became discernible. After the application of the air-douche, the hearing distance of the right ear was found risen to six feet.

Friday, 20th.—Right ear, six feet three inches; left ear, four feet eight inches.

In consequence of some tenderness of the left external ear, the air-douche was not applied to-day.

Monday, 23d.— Tenderness of the left external ear gone.

Hearing distance on the right side, seven feet seven inches and a half; on the left side, five feet eleven inches.

Applied the air-douche to the left ear, and immediately found the hearing distance only four feet eight inches; but on trying it again, in the course of a few minutes it was found to have risen to seven feet and a half.

Tuesday, 24th. — Right ear, seven feet eight inches and three-quarters; left ear, eight feet one inch and a half.

Applied the air-douche to the right ear. When the air enters the tympanum with moderate force, a rushing sound only is heard; but if with greater force, a gurgling noise is perceptible. A few minutes after the air-douche, the hearing distance was found to be nine feet four inches. On trying it again, after an interval of a few minutes, it was found to be almost twelve feet.

Wednesday, 25th.—Right ear, twelve feet eleven inches; left ear, nine feet one inch.

A few minutes after the application of the air-douche to the left ear, the hearing distance was eleven feet four inches. After an interval of five minutes from the first trial, the hearing distance was found risen to thirteen feet one inch and a half.

Thursday, 26th. — Right ear, fourteen feet three inches; left ear, ten feet and a half.

Applied the air-douche to the right ear. At first there was a gurgling, as if there was in the cavity of the tympanum thin loosened mucus. A rough rushing sound was afterwards heard, as if something vibrated within the tympanum, or as when one blows on a bit of gold-beater's skin, stretched between the fingers. This sound appears to be owing to vibration of the membrana tympani.

Hearing distance on the right side was now fifteen feet and a half, and in the course of five minutes had risen to sixteen feet five inches.

Friday, 27th.—Right ear, seventeen feet and a quarter; left ear, eleven feet eleven inches.

After the application of the air-douche to the left ear, the hearing distance of it was twelve feet five inches.

Saturday, 28th.—Right ear, eighteen feet four inches and a half; left ear, fourteen feet one inch and a half.

Air-douche applied to the right ear. The patient now hears the ticking of the watch distinctly, from one corner of the room to the other, a distance of about twenty-five feet.

Monday, 30th.—Hears with the right ear the watch, from one corner of the room to the other; left ear, fifteen feet and a quarter.

After the application of the air-douche to the left ear, the hearing distance was found risen to about eighteen feet.

Tuesday, 31st.—Left membrana tympani, though still opaque, does not appear so much thickened as before. It glistens more naturally than it did. The handle of the malleus may now be seen. The appearance of the right membrana tympani is pretty natural.

Hears the watch with the right ear distinctly, from one corner of the room to the other. Hearing distance of the left hear, fourteen feet five inches.

After the air-douche to the left ear, the hearing distance was about seventeen feet.

Thursday, August 2d. — Hears the watch distinctly with the right ear, from one corner of the room to the other, but did not hear it with the left ear at quite such a distance as the day before.

Applied the air-douche to the left ear without much change, the hearing distance remaining at only about fifteen feet.

Friday, 3d. — Right ear continues good; left ear hears the watch at the distance of sixteen feet four inches.

Saturday, 4th.—Dismissed cured, and is to go back to school on Monday. To guard against a relapse, it was di-

rected, in addition to the general instructions regarding diet and regimen, which were obviously indicated, that in the event of ear-ache coming on again, leeches should be freely applied without loss of time, the ear fomented with warm water, and warm sweet-oil dropped in.

Saturday, 18th. — Received a letter from Mrs. C. D. to-day, in which she says her son is quite as well as when I saw him last; and although he had had a slight cold since, it had not in the least affected his hearing.

Remarks.—In this case, the principal cause of the deafness was accumulation of mucus in the tympanic cavities. There was no particular obstruction of the Eustachian tubes; it merely appears, that at first the Eustachian tube of the left side was impervious to a stream of air blown from the mouth; and that at the first application of the air-douche, the air penetrated less freely and with more gurgling than on the right. That the affection of the auditory passages had some share in the production of the deafness, was shewn by the circumstance, that, when they were restored to a more healthy state, the hearing distance was raised a few inches, and the susceptibility to the human voice very much improved; but, unlike what occurred in the preceding case, the clogged state of the tympana prevented improvement to any considerable extent. The increasing ratio in the progress of improvement, under the use of the air-douche, illustrates well both the nature of the principal cause and the efficiency of the means adopted for its removal. That hearing was not so fully restored on the left side as on the right, was owing to the opaque and thickened state of the membrana tympani, and possibly to a similar state of other parts of the ear not accessible to view.

As to the origin of the state of the ears.

The deafness, it is said, was first observed to come on after the measles. Both the eye and the ear, it is well known, are particularly obnoxious (especially in scrofulous constitutions) to what is called the *dregs* of the measles, as well as of the other exanthemata. Ophthalmia tarsi, scrofulous ophthalmia, chronic dacryocystitis, &c.—all diseases involving tegumentary structures, are very often excited by the measles, &c. The accessory parts of the ear being in like manner chiefly composed of the tegumentary tissue, readily participate in the various affections of the skin. In the case before us, I believe we have a counterpart of the diseases of the eye, excited by the same cause. The tegumentary lining of the auditory passages, with the ceruminous glands, were affected. Now this resembles, in many respects, that disease of the eye called ophthalmia tarsi. In both cases the structure affected being a tegumentary tissue in the transition from skin to mucous membrane; in the one connected with the ceruminous glands, and in the other with the Meibomian follicles.

But in addition to the affection of the tegument of the auditory passages, there was some affection of the mucous membrane lining the cavity of the tympanum, giving rise to the accumulation of mucus; an affection which might be compared to the scrofulo-catarrhal ophthalmia, or to chronic dacryocystitis, diseases, as above mentioned, often excited by measles, and often existing along with ophthalmia tarsi.

This comparison of the pathology of the case under consideration with morbid states of the accessory parts of the eye, excited by the same cause, indicate the propriety of employing the same general means of cure; but, as was pointed out in my former communication, in regard to some parts of the local treatment, what is of easy application to the eye requires a complicated apparatus for the ear.

Unfortunately, cases such as the above have a great tendency to relapse, either in consequence of the membrane—the seat of the disease—not being restored to a healthy action, and thus giving rise to a reaccumulation of mucus, or in consequence of a new attack of inflammation to which the part will continue as liable as at first, or more so. This is not to be surprised at when we reflect on the difficulty of completely curing a chronic conjunctivitis, a chronic dacryocystitis, or even a chronic inflammation of the mucous membrane of the nose and throat; or the liability of these diseases, when cured, to fall back from the slighest causes.

Master C. D. came under my care again eight months after he was dismissed cured, for a renewal of deafness, brought on by repeated attacks of ear-ache while at school. No measures

having been taken immediately to subdue the inflammation, the cautions and advice given when he was dismissed having been entirely neglected, the membrane lining the tympanum has, I believe, become much changed in texture, so that the character of the disease is considerably different from what it was before.

The further history of the case will be given along with others treated with the vapours of acetic ether thrown into the tympanum.

EXTRAORDINARY CASE OF

MELANOSIS OF THE SKIN IN A WOMAN,

IN WHOM THE GREATER PART OF THE SURFACE BECAME OF A DARK COLOUR.

By Dr. Gillkrest,
Deputy Inspector-General of Army Hospitals, Gibraltar.

(Communicated by Sir James M'Grigor, Bart.)

Maria Anglen, aged 28 years, a native of St. Lucar, in the province of Cadiz, was born of healthy parents. The father died from the consequence of a fall at the age of 50, but her mother still lives, and enjoys perfect health.

This woman came to reside at Gibraltar in the year 1828, and married three years afterwards, at the age of 21 years.

Previous to her arrival at Gibraltar, she passed through the small-pox, measles, and scarlatina; she also states, that at Cadiz, in 1819, she had an attack of fever, which she considers as having been the yellow fever.

She is the mother of three healthy children, all nursed by herself; their ages, respectively, are 6 years, 3½ years, and 14 months.

From the age of 13 menstruation has not been interrupted, except from natural causes, and no particular phenomena have occurred during periods of gestation, or in the course of her accouchements.

Previous to her marriage, Maria Anglen gained her living by needlework.

Her temperament is bilious, and, like most Spanish women of her class, she is a brunette.

Previous to her present illness she was rather *embonpoint*. She has not been in the habit of taking any food different from what most others of her class take.

Her dwelling, for the last two years and a half, has been in a room on a first floor, in a small closed court (called here a "Patio"), in which several other families live. The room is badly ventilated, and the situation altogether, one would say, *à priori*, unfavourable to health; but it is to be remarked, that hundreds live here in the enjoyment of good health for years in these closed courts, of which there are great numbers in this garrison.

In the month of August 1838, this woman discovered, on placing her hand on the region of the liver, a small tumor, which she described as having been about the size of a pigeon's egg. To this, however, she paid little attention at the time, but she went to the Civil Hospital in a few days after, where she was directed to apply some leeches to the part. Fearing that she should be again ordered leeches, and there being no pain in the part, she did not return to that establishment. This tumor disappeared after some time, without any particular treatment.

Towards the end of October an attack of ophthalmia took place, which lasted for nearly a month.

About the 22d of October, after a dinner of beef, made into soup with a little ham, and cooked in an earthen vessel which had been several times before used for the same purpose, she was attacked with vomiting, a disposition to which continued for a considerable time afterwards. The same thing took place, in a more or less degree, in the case of her mother, and also in her three children, who had partaken of the same dinner. She consulted an apothecary about this vomiting, which was accompanied by tenderness of epigastrium and debility; and he gave her three pills and a powder; the former were retained on the stomach, but the latter immediately rejected on being taken. The pills produced bilious evacuations, and ptyalism followed in a few days. The vomiting continued unabated, the sensibility of epigastrium became increased, and great thirst set in. On the 20th of December she consulted a Spanish physician, who found her greatly reduced in strength; there was a good deal of cough, with severe pains in both sides of the thorax; the pulse very quick and small; she was advised

to wean the child, now more than twelve months old; leeches were applied to the sides and epigastrium, mucilaginous drinks were ordered, and, under this treatment, the irritability of the stomach was allayed; but the cough continuing, a blister was applied to the sternum. Tartar emetic ointment was also applied between the shoulders, and under this management the cough ceased, and she was able to sit up in the first days of January.

About this time she observed a little swelling of the feet, accompanied with a pricking sensation, which annoyed her a good deal. The vomiting having returned without any manifest cause, she was again obliged to take to her bed, when leeches were again applied to the epigastrium, followed by a sinapism. The vomiting, however, continued, with a dry cough, diarrhœa, and violent palpitation. After a few days' treatment the cough and palpitation yielded; but the other symptoms persisting, leeches were applied to epigastrium. Her state now was in some respects ameliorated, the dejections, which had been lately dark and streaked with blood, having become natural; but the state of the feet mentioned became worse, and she now complained of pain and heat in them. The hands also now began to be affected in a similar way.

It was at this period that her physician perceived that Maria Anglen's skin had become darker, the change being very remarkable on the neck, trunk, and nates; the skin of the face and extremities having preserved its natural colour. Under the use of Seltzer water, and a mixture containing the acetate of ammonia, temporary relief from the vomiting was obtained. Cerebral symptoms, which soon afterwards occurred, were relieved by the application of leeches; and the application of another blister to the stomach was followed by an almost total cessation of the vomiting. In the meantime the pains in the hands and feet increased, so as to be very distressing; and the colour of the skin in the parts mentioned became darker. The thighs and upper part of the arms were now of a dark colour, but in a much less degree. During this time the conjunctivæ preserved most perfectly their natural colour.

On the 16th of February last a consultation took place, at which I was present. The pain in the feet and hands was very distressing, and disabled her from moving in her bed; much emaciated; described the pain as extending from the feet along the back of the legs; conjunctivæ natural; pulse small, and 140; tongue moist; appetite moderate; passing very bad nights, from the severe pain in her feet, distressing cough, and palpitations; relieved during the day-time from the cough and palpitations, but not from the pain of the hands and feet, which, however, was then always less severe. Urine, carefully examined, presented nothing remarkable; dejections pretty natural, and usually an evacuation two or three times a day.

On inspecting the surface, all were greatly astonished at the colour of the skin on the parts already mentioned; and were we not previously informed of the case, we would not have believed, on seeing those parts only, that we had not a negress before us. This dark colour became gradually lighter down the thighs and arms; and, with the exception of slight traces about the toes, did not exist on the feet or hands.

On examining the skin where the greatest intensity of colour existed, numerous granulations, varying from the size of a section of a small pea to the size of a pin's head, were discovered; no traces of these being to be found in the legs or fore-arms.

On examining carefully the region of the liver, with a view to ascertain whether there existed any traces of the tumor which existed when she was seen at the Civil Hospital some months before, nothing was to be seen, and considerable pressure caused no pain.

In a few days afterwards I saw this poor woman, in whom I found no change except that the pulse had fallen to 112. With a view to ascertain how far any change might have taken place in the blood, ℥ss. was taken from a vein in the foot; this separated into serum and coagulum, in the usual proportion, both being of the colour of ordinary blood.

A blister about the size of a half-crown was applied to the side, not with a view of relieving any symptom, but for the purpose of ascertaining whether there were peculiarities in the raised cuticle, or in the serous collection under it. The latter was as transparent as is usual in ordinary cases; but the cuticle,

with whatever of the cellular tissue which might have been adhering to it, was rather dark, but not to the degree which might have been expected from its previous appearance; and the subjacent surface presented nothing different from what usually takes place in ordinary cases after a blister.

Under a course of treatment (including a few mercurial frictions to the spine) to which I am not disposed to attribute any effect further than, perhaps, soothing her occasionally, this woman has gradually got better, desquamation having proceeded during April and May, but, until lately, not accompanied by corresponding relief from the pains in the hands and feet; the former, during the greater part of the time, having the fingers bent as in persons who have cramps, and the feet as in persons affected with paralysis; while there existed a morbid sensibility in all those parts, so that the slightest touch increased her torments.

On visiting Maria Anglen on this day (June 4, 1839), the improvement in her condition is very remarkable. The desquamation of the original dark layer is almost complete, and a further desquamation of another *brown* layer, which had succeeded to it, is in many places in progress, so as to display the natural colour of the surface of those patches.

The distressing pains of the extremities have nearly ceased, and she has the use of her hands once more. She has still, however, very little power over her feet, in which there is also still an excess of sensibility. She takes nourishment freely, is cheerful, and the function are regularly performed.

The records of medicine abound in cases of melanotic tumors, differing vastly in size, and varying in consistence, in almost every organ of the body; and we are equally well furnished with evidence of the frequent deposition of a melanotic fluid in lymphatic glands, on mucous, but still often on serous surfaces, and the subjacent tissues. Laennec, Breschet, Andral junior, Alibert, Carson, and Cruveilhier, need but be consulted upon this subject. But on looking over the observations of the foregoing writers, as well as the works of other physicians of great research, we perceive how seldom an affection of this kind, to any extent in the skin, is spoken of. This has probably arisen, as Dr. Rochoux conjectures, from the disease having been sometimes confounded with the "melas-icterus;" decided distinctions, however, existing; the conjunctivæ in the latter, partaking of the change of colour, which is also pretty uniform over the whole surface: whereas, in melanosis of the skin, the contrary is always found to take place. Dr. Rochoux might, I think, have added, with great truth, that the colour in both must be considered as differing greatly; that of the skin of the woman whose case is related above, having been quite as dark as soot, to which the colour of the skin in other instances of this disease has been likened by authors.

It is to be presumed, that the case of Maria Anglen will not be considered as in any manner similar to those cases where a peculiar colour is given to the skin by the internal use of nitrate of silver.

It is in the work of Rayer, on the Diseases of the Skin, that I have been able to discover cases (and they are but few) at all approaching to the above. That quoted from Lecat, 1765, is very remarkable, where the head of a lady became "du plus beau noir, excepté les yeux et les bords des lèvres," on three successive occasions, about the seventh or eighth month of pregnancy; the natural colour returning soon after each accouchement. It appears that no desquamation took place in this case. He quotes a case from Rostan, where the greater part of the surface of the body of a woman presented the appearance of a negress. The disease was, in this instance, the sudden effect of a fright. The woman died from the consequences of an attack of pneumonia several months after, and the post-mortem examination shewed no trace of a melanotic tumor. The skin preserved the same intensity of colour until twenty-four hours preceding her death, when it became paler.

In no case do I find the disease described as being accompanied with the distressing pains in the extremities, or ending by desquamation, as in the above case of Maria Anglen.

OBSERVATIONS ON THE FUNCTIONS OF THE GREAT SYMPATHETIC NERVE.

IN REPLY TO MR. WELLS.

To the Editor of the Medical Gazette.

Sir,

Your Dublin correspondent, Mr. T. J. Wells, in the Medical Gazette of the 27th ult., has recorded the result of an experiment designed to exhibit the physiological action of the great sympathetic nerve, in certain cases of poisoning. The experiment is thus recorded:—

"After making a wound on the inside of the thigh of a rabbit, I applied to it six drops of a solution of hydrocyanic acid. The animal was dead in four minutes. After some unsuccessful attempts, I succeeded in dividing both sympathetic nerves in the lumbar region of another rabbit much about the same size and age. To a similar wound on the thigh, I then applid the same quantity of hydrocyanic acid. No effect appeared to be produced for nearly ten minutes, when, some slight convulsion coming on, I repeated the application; but it was not till sixteen minutes from the time I applied the first quantity that the animal was dead."

It is to be regretted that the experimenter was not more explicit in noticing the apparent mode by which death was produced, or, in other words, the sequence of symptoms consequent upon the administration of the poison; as it is impossible, in the absence of sufficient data, to form from an isolated case an hypothesis which may not be subverted by future observation. It unfortunately happens, too, that our knowledge of the functions of the great sympathetic nerve is exceedingly limited, pathologists, to whom abundant opportunities have occurred, having in a most unaccountable manner neglected to notice the appearances assumed by the ganglionic system in diseases, upon the nature of which the state of the visceral nerves might have thrown great light. In the deductions also, from experiments which have been instituted, there appears to exist a great discrepancy, so that conclusions of an opposite tendency have been drawn from experiments almost identical in their nature.

Sir Benjamin Brodie imagines that direct sedative poisons (or those which, like hydrocyanic acid, produce an instantaneous extinction of life without previous excitement) act through the media of the nerves of sensation upon the brain, producing their specific effect upon the parts supplied by these nerves, which effect is the result of a direct impression which immediately exhausts them of their susceptibility of receiving external impressions. He found that the motor nerves were but little affected by the primary action of the poison, the organs of respiration continued their functions, the irritability of the heart remained unaffected, and the peristaltic action of the intestines continued for some time after the sensitive life of the animal had been destroyed.

Dr. Krimer, on the contrary, a physician, of Aix-la-Chapelle, states, from numerous experiments, that, notwithstanding the rapidity with which hydrocyanic acid acts in destroying life, it is nevertheless taken into the circulation; and that when the arteries and veins of a part are tied, the nerves being left entire, and the acid introduced into a wound, it does not act, but takes effect the instant the ligatures are removed from the blood-vessels.

These statements show the caution requisite to be observed in such intricate examinations which involve deductions of so adverse a nature.

To come more immediately to the case cited by Mr. Wells: the cause of the retardation of death is, I imagine, on both the above hypotheses, obscure. The theory of Brodie, which constitutes the sentient nerves the prime agents in conveying the specific effect of the poison to the sensorium, and rejects absorption, will not aid us, because, as we have already seen, the ganglionic system is affected by a secondary action only, the vegetative life, as it has been termed, of the body, continuing for some time after the sensitive has become extinct. So, also, from that of Krimer we do not gain much ground, unless, indeed, we take into consideration the important part which the great sympathetic plays in the economy of the vascular system, and suppose that by arresting the supply of nervous energy we thereby prevent the speedy extension of the poison, and consequently retard its secondary action upon the expanded extremities of the ganglionic nerves.

The subject, however, is one of extreme interest; not the less so, perhaps, from the obscurity which now overwhelms it. If it were possible to obtain a correct knowledge of the pathology of the internal ganglionic system, I am convinced, from observations which I have been able to make, that the nature of many disorders, whose origin is not now even suspected, would be perfectly demonstrable; and, as it is, although we cannot satisfactorily explain the *modus operandi* of internal irritation acting upon the intercostal ganglia, and causing remote disturbances, yet we are enabled, from the nature of certain sympathetic affections, and of the therapeutical agents employed with success for their removal, to trace with tolerable accuracy these disorders to their source. This is the great end to which all physiological investigation should be made subservient; and I confess, were it not for the unconquerable aversion I entertain for vivisections, that I should be delighted to pursue a subject which promises such abundant results.—I am, sir,

Your most obedient servant,

R. H. Allnatt, M.D.

Wallingford, August 5, 1839.

ALLEGED DISCOVERY OF VARICOSE CAPILLARIES.

To the Editor of the Medical Gazette.

Sir,

The following advertisement appeared on the cover of your journal of last week:—

"In August will be published, illustrated by plates, a Treatise on Varicose Capillaries, as constituting the Structure of diseased Hepatic Ducts: to which is added, an Account of the new form of the Pus Globules. By Thomas Gordon Hake, M.D., late Physician to the Brighton Dispensary, Orphan Asylum, &c. London: Taylor and Walton, Upper Gower Street."

Dr. Hake had repeatedly seen the greater number of my preparations illustrative of the anatomy of cancer; I had told him that I had other preparations illustrative of the mode of development of every description of growth: he had repeatedly asked me to show him *those* preparations, and to communicate my views to him, promising me that he would not divulge any thing I might communicate to him. Having no reason to doubt his honour, I complied with his request; and within the last month (and fortunately in the presence of Mr. Powell, the well-known optician, and, I think, on the evening of July 13th), I showed him, and fully explained to him, a preparation of "Varicose Capillaries." He has now the audacity to claim what I then communicated to him as a discovery of his own; founding his claim on the fact of his having "worked during *several hours* for *several days*, and *re-discovered*" what he calls "my secret;" admitting, however, that he first saw "varicose capillaries" at my house, and in my preparation; but stating that "*had I not shown them to him, he should have discovered them himself.*" Convinced, no doubt, by his laborious investigations, continued perseveringly "during several hours for several days," Dr. Hake assured me, with the utmost gravity of tone and manner, that "my opinions were quite correct:" it is for Dr. Hake now to explain how he could have ascertained the correctness of my opinions if I had not communicated them to him. At the conclusion of my interview with Dr. Hake, I told him, that as I should be sorry to have any misunderstanding with him, I was willing to leave the matter in dispute between us to the decision of a third person. Instead, however, of even attempting to arrive at an amicable conclusion, or of holding any communication with me, he speeds to your office with his advertisement; and when, after waiting nearly four days (and by which time his advertisement had appeared in the Lancet, though I did not see it either in that journal or in yours until Tuesday last), I requested him, by letter, to inform me what he intended to do respecting the subject of our conversation, he informed me that "the course he intended to take was to make public what he had discovered."

All that Dr. Hake knows of "*varicose capillaries*" he has learned of me; and the discovery which he claims forms the ground-work of a paper "On the Anatomy of Cancer," on which I have been almost uninterruptedly engaged during the last five years. Under these circumstances I request the favour of your

insertion of the following letters in the next number of your journal.

I am, sir,
Your most obedient servant,
F. KIERNAN.

33, Beaumont Street,
Aug. 8, 1839.

33, Beaumont Street,
Aug. 5, 1839.

Dear Sir,—You and Dr. Hake passed an evening with me about a month ago. On that occasion I showed Dr. Hake a preparation, which he examined during a considerable time with the microscope. Dr. Hake now claims what I then showed him as a discovery of his own, and is about to make it public. Will you oblige me by stating, to the best of your recollection, what passed with reference to the preparation?

I am, dear sir,
Very truly yours,
F. KIERNAN.

Mr. Hugh Powell,
24, *Clarendon Street, Somers Town.*

24, Clarendon Street, Somers Town,
August 6th, 1839.

Dear Sir,—In answer to your letter requesting me to state what took place on the evening I met Dr. Hake at your house, I beg to inform you that I will do so to the best of my recollection, though, not being acquainted with anatomical preparations, I am able to recollect but few of the many observations that were made.

After we had been using the microscope for some time, you produced a preparation which we all examined. During the time (which was about an hour and a half) that Dr. Hake was examining it with the microscope, you pointed out several different parts to him, one of which you said was disease in its most incipient state. Dr. Hake said he could sit and look at it all night, and wondered you had not published it. He thought if you did not soon do so it was likely some one would do it before you; and he added, that he would be as silent as the grave. Dr. Hake observed to me, as we walked home, that he thought you were too careless about it, and that some one would certainly publish an account of the same subject before you. From what you have stated to me in your letter it is evident that Dr. Hake would not have been long in guessing the person that was likely to attempt to anticipate you.—I am, sir,

Yours truly,
H. POWELL.

F. Kiernan, Esq.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Retrospect of the Progress of Surgical Literature, for the Year 1838-9. By Messrs. NEWNHAM, W. WICKHAM, and SALTER. Read June 13, 1839, before the Annual Meeting of the Southern Branch of the Provincial Medical Association, and published at its request. London, 1839. 8vo. pp. 47.

THE following are the principal points touched upon in this useful Retrospect:—Vaccination and revaccination; Dr. Macartney's work on inflammation; the respective merits of amputation by a circular incision, and by the flap operation; adhesion of stumps and incised wounds by hare-lip pins and the twisted suture, and also by using platina-wire inserted with the common needle; lithotomy and lithotrity; the work of Bourgery and Jacob, on surgical anatomy; Blandin's *Anatomie Descriptive;* and Dr. Phillips's *Amputations dans la contiguité des Membres.* Dr. Phillips prefers the torsion of arteries as the means of arresting hæmorrhage, while Malgaigne thinks it better to bruise the internal coats of the vessel with suitable pincers, and speaks favourably of M. Bouchacourt's experiments, where a moderately heated iron was applied to the ends of the divided vessels. Both these plans, however, have been tried only on animals. Vidal prefers ligatures.

"The dissertation on dislocations by both these authors is most valuable; but your reporters must only notice a recommendation of Malgaigne, for avoiding injury to the female breast, where counter-extension is required—viz. to interpose the hand of the surgeon or assistant, so that the pressure of the bandage may be borne chiefly by it; and a suggestion of Vidal, which has succeeded admirably with himself, and is very simple—that is, in dislocation

of the humerus, to make the patient sit upon the ground, and taking hold of his wrist, to raise the arm strongly towards the head, at the same time, if possible, distracting his attention from the muscles, and then allowing it to drop suddenly, when the dislocation will be reduced."

The reporters next speak of Mr. Gardner's account of partial dislocation of the upper extremity of the radius, given in the MEDICAL GAZETTE for September 1837; the treatment of fractures by the immoveable bandage; the treatise of Vidal, on extra and intracapsular fracture of the neck of the femur; the pamphlet of Malgaigne on fracture of the ribs; the compendium of diseases of the periosteum, by Maisonneuve; and a treatise, by Gerdy, on the removal of the articulating extremities of bones; as well as an article in the new edition of Cooper's Surgical Dictionary on the same subject.

They then mention Mr. Gulliver's memoir on necrosis, in the twenty-first volume of the Medico-Chirurgical Transactions; the use of tartar emetic in dropsy of the joints; and the works of Recamier, Guérin, Scoutetten, Dieffenbach, Vidal, and Duval, on "affections of the motor powers;"—except Dieffenbach, however, they have all confined themselves to club-foot. Mr. Dodd and Mr. Duke, of Chichester, have operated for club-foot this year, with success.

The introduction of air into the veins during surgical operations; the employment of warm air in the treatment of wounds; the application of cold water to dislocations, fractures, and contusions; and the advantages of platina needles, are the next topics.

Next come the advantages of bandaging and compression in some diseases; the radical cure of hernia, and the sketch of its anatomy, by Malgaigne; the treatment of hydrocele; the work of M. Beniqué, on retention of urine; a combination of extract of lettuce and camphor, for the relief of spermatorrhœa; a new bougie, made of ivory softened by acids; a treatise on inflammation of the prostate gland, by Verdier; and the treatment of varicocele, which "has received considerable attention during the past year, especially from Landouzy."

Our authors mention the works of Humann, Ricord, and Giraudeau, on syphilis; Dr. Rognetta's treatise on ophthalmology; M. Maunoir and Sir David Brewster's observations on cataract; Mr. Wharton Jones's paper on staphyloma of the cornea, in the MEDICAL GAZETTE for February 1838; Mr. Tyrrell's remarks on acute inflammatory chemosis, in the last volume of the Medico-Chirurgical Transactions; Mr. Pilcher's treatise on the anatomy and diseases of the ear; M. Helot's experience in twenty cases of varices; M. Bouchacourt's memoir on erectile tumors; and Mr. Hawkins's paper on malignant diseases of the skin of the face, in the twenty-first volume of the Medico-Chirurgical Transactions.

They further notice the work of Dr. Edward Zeis on plastic surgery; the opinion of Sir Charles Bell, that ranula does not always arise from obstructed salivary ducts; electricity as a remedy for tetanus; M. Hatin's newly proposed plan of tying polypi in the pharynx; a case of poisoning by arsenic, successfully treated by M. Deville, with the hydrate of the tritoxide of iron; the employment of ergot of rye in paralysis of the bladder; and M. Blandin's memoir on amputation of the foot, at the articulation of the os calcis and astragalus with the scaphoid and cuboid bones.

"Aware of the objection urged against this operation, on account of the retraction of the heel, M. B. relates his having peformed it *eleven times*, without any such consequence, and thinks it would very rarely occur if sufficient care were taken to preserve the divided tendons long enough."—P. 35.

The reporters then say—"In a retrospect of surgical science for the year by-gone, it is impossible to pass over without notice the treatise of Esquirol, supported as it has been by many other contributions to mental diseases."—P. 35.

Assuredly, if it was impossible in a surgical retrospect to pass over a treatise on insanity, it ought to have been equally impossible to leave out all the books which have appeared on phthisis, gout, or dysentery. But they add, still more strangely—

"Till within a few years, the subjects of insanity, instead of being looked upon as objects of the highest interest, have been contemplated with a sort of alarm, which it is difficult to define; and the design has been to exclude them

from society rather than restore them to *health*, and to all the powers and privileges of the social compact. It is most extraordinary that disease which attacks the organ of the highest consequence to the existence of man, which spares neither rich nor poor, and is so frequently found among the highly-gifted, should have been so long left in obscurity, and should even now possess so large a domain of unexplored territory."—P. 35.

We readily admit that the treatment of madness has improved, like every other part of medicine; but no great leap seems to have been made within the last few years; and even the coarsest methods of treatment were designed to restore the patients to health.

We do not know whether Esquirol published any thing new last year, but the five reasons for confining the insane, which the reporters quote from him, are to be found in a work of his published at least six years ago *.

In midwifery, the reporters point out the treatises of Maigne, Moreau, and several others; Mayor's pessary, made of iron-wire covered with oiled silk, or silk dipped into a solution of caoutchouc; Hull's utero-abdominal supporter; and the hour-glass pessary recommended by Malgaigne for the cure of vaginal rectocele.

The subject of cancer has been discussed by Colombat de l'Isère and Duparcque. Their conclusions are, "that cancer is originally dependent upon chronic inflammation of the organ, from local congestion or ulceration, susceptible of cure in the first instance by judicious treatment; that it is in its primitive nature purely local (and this opinion is supported by the history of cancer of the face, at p. 33 of the present Retrospect); that it is, indeed, capable of involving the entire constitution in its progress, but also susceptible of arrest, by relieving the early pathological conditions, of which, in general, cancer is but the unhappy consequence. Unfortunately, practitioners are too apt to be led away by phenomena which are apparent, and do not give themselves the trouble of inquiring into the state of the organs which have furnished those phenomena. Thus, for instance, they are told of pains in the loins accompanied with leucorrhœa, and they are contented to prescribe for these symptoms without inquiring after the cause, of the existence of which these are only the expression."—Pp. 39, 40.

The employment of ergot of rye and ammonia "in uterine hæmorrhage from congestion, with feebleness of the uterine fibre," and of the *cura famis* in hypertrophy of the uterus and other forms of chronic inflammation ultimately terminating in cancer, are mentioned with approbation.

On the amputation of the cervix uteri, the testimony of the year has been conflicting. The nitrate of silver is very useful in ulcerations about the cervix, when not of a malignant character.

"In chronic inflammation of the uterus, and in cases threatening to degenerate into cancer, Treille particularly advocates the use of cold baths for several hours, night and morning, and the *frequent irrigation* of the diseased organ with cold water."—P. 41.

The remaining points discussed, are vesico-vaginal fistula, lacerated perinæum, diseases of the ovary, and tapping the head in chronic hydrocephalus. Finally, the reporters give a list of nearly fifty works referred to in the Retrospect. This Report does the authors great credit, and will furnish every member of the profession with useful hints for practice, as well as almost endless topics of inquiry.

The Surgical Anatomy of the Groin, the Femoral and Popliteal Regions. By Thomas Morton, formerly one of the House Surgeons of University College Hospital. Illustrated with Lithographic Plates and Wood Engravings. London, 1839. 8vo. pp. 127.

This is another part of the work which we recommended to our readers in our number of May 25th. The former volume was on the perineum; the one now before us, on several other important regions, does Mr. Morton great credit, and affords some very favourable specimens of the perfection which coloured lithographic plates have attained. We would particularly point out the seventh and eighth plates, from drawings by J. Maclise, Esq., as worthy of admiration. The former represents the dissection of the large vessels and nerves on

* Observations on the Illusions of the Insane, and on the Medico-Legal Question of their Confinement. Translated from the French of M. Esquirol, &c. By Wm. Liddell. Lond. 1833.

the front of the thigh, after the fascia lata has been removed from the muscles; the latter represents the popliteal region when the dissection of the muscle, and vessels which it contains within its limits, has been completed.

The grooving of the fibres of the sartorius, gracilis, adductor magnus, and adductor longus muscles, in plate vii., is a triumph for the powers of colouring.

Mr. Morton intends to complete the work by a similar treatise on inguinal hernia, the axilla, and bend of the elbow; and another on the head and neck,—making in the whole, four parts. We cordially wish his book every success.

MEDICAL GAZETTE.

Saturday, August 10, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL EXAMINATIONS.

THE questions set by the Examiners in the University of London, which we published in some of our last numbers, afford another proof of the great improvements that have lately taken place in the style and standard of the chief medical examinations. They are evidently losing all those faults which, but a few years since, so much diminished their utility. There are fewer of those stock questions which are, as pupils say, "sure to be asked;" and the most captious critic cannot assert that the subjects inquired into are limited to a few dull settled points of almost household knowledge, or to the crotchets of the examiner. All this is as it should be; the average knowledge of medical practitioners will always be proportionate to that required of medical pupils by their examiners: as the pupil passes his examination, so the practitioner will generally pass his life—either shuffling through it with vague uncertain notions of a few loose facts, and totally powerless in independent reasoning, or with a sound conception of the truths that form the basis of his art, and the ability to meet any new circumstances that may occur in his practice.

Within certain limits, too (and they have not yet, so far as we know, been ever attained), the candidates for diplomas or for other honours will readily acquire whatever is demanded of them; the zeal of the pursuit being here, as in many other cases, directly proportionate to the difficulty of attaining its object. In the University of Cambridge, for example, the number of competitors for honours has regularly increased with the increasing difficulty of the examination; and this not only in consequence of the afflux of graduates being far greater now than some years since, but also from the greater emulation that is excited among them; for of the same number of graduates, the proportion who go out in honours is every year increasing. It is the same with the candidates for common degrees, who, since the standard of examination was raised, have neither decreased in number nor appeared less able or willing to acquire the full amount of knowledge required of them. In short, all experience affords the same result, and it may be taken as a fixed fact in planning schemes of examination, that pupils will do every thing that they can do, and much more than they like to do, if their doing it be essential to their obtaining their degree or diploma.

Whatever mode of learning a subject may be thought best, it is thus in the power of examiners to determine how much of it shall be learned, and in what kind and form it shall be acquired; and they have, therefore, in the end, complete power over both teachers and pupils, for the former must supply what the latter want. This being the case, every improvement in medical examinations is the sure prelude to an equivalent improvement in the general average of

medical knowledge; and every time that the intellectual price of a diploma is increased, the security of the public against ignorance is augmented. It is, indeed, chiefly through this medium of examinations that the public are benefited by the improvements effected by a few in medical science. The important and practical facts which the use of the stethoscope affords, are as yet hardly made available to the public good, only because the majority of medical students are scarcely, if at all, examined on its applications; and so of all the more recent improvements in pathology, of which the public will feel the full benefit only when the knowledge of them is made an essential step in obtaining the diploma.

We cannot, therefore, but look with great satisfaction on the improvements which have been made very lately in nearly all our medical examinations. At the College of Physicians, the abolition of the system of holding the examination in Latin alone has given more room for difficulty in questioning, and accuracy in answering, by removing the obstacle which before lay in the way of both examiner and candidate, who could only ask and reply to those things that they could extemporaneously put into Latin; and the adoption of printed questions has insured a much greater preciseness, and a more close searching into the real merits of the candidates, than is possible in any *vivâ voce* examination. The character of the questions, too, is highly creditable; the papers which we have seen are such, that any man who can fully and accurately reply to them, cannot but possess sufficient knowledge to insure security and success in his practice.

At the College of Surgeons the examinations, though still in most cases entirely conversational, have been lengthened and rendered more difficult, each student passing in succession before four examiners, by each of whom his knowledge is scrutinized for upwards of a quarter of an hour. Actual demonstrations, also, are generally required; and we were glad to hear that, in the recent competition for the first appointment to the College studentships, the candidates were all set to perform actual dissections of different parts in animals, and that the decision was founded almost entirely on the ability which they severally displayed in their work*. This is the plan which should be followed in all cases; no student can possibly be *ground* to dissect with correctness or facility; he can only acquire this by practice; and by testing his ability in dissection, or in the performance of some operations, his examiners would ascertain whether he possessed not merely a verbal knowledge of anatomy, but the practical acquaintance with arrangement and structure, and the manual dexterity which would really authorize them in letting "all men know by these presents," that he is "fit and capable to exercise the art and science of surgery." Till they insist more generally than they do at present on practical examinations, we fear, however much their system may have already improved, that they will still sometimes bestow their diploma unfitly. One cannot test a man's fitness for a manual undertaking by his verbal aptness, any better than one could his intellectual attainments by his mechanical dexterity. A surgeon needs both head and hands, and ought to be required to possess both by those who give him a legal title to the name.

At the Apothecaries' Hall, though general improvements have taken place gradually, much room is still left for more; and an advance is the more urgent as its Examiners form the only board before which the large ma-

* The Committee appointed to examine the fitness of the candidates have recommended to the Council Mr. Crozier, a gentleman who was lately a student at St. Bartholomew's Hospital.

jority of students are compelled to appear, and might therefore be the means of preventing all ignorance, except that which displays itself in the brazen armour of utter quackery, from imposing upon the public. If what we have said of the influence of examinations in determining the average attainments of practitioners be true (and no one that can either see or think can for a moment doubt its truth), it is evident that the Apothecaries' Company have more power to improve the general condition of medical practitioners than any other existing body, inasmuch as they alone can prevent the greater part of students from practising till they are positively fit for the undertaking. But though we willingly admit that they have improved their examinations, they have not yet *nearly* attained to the right and advantageous exercise of this power, nor, indeed, do they yet afford much hope that they ever will, unless with considerable change in their plans of examination. The Examiners themselves, though excellent private practitioners, yet being neither teachers, nor placed in responsible public situations, have scarcely a sufficient inducement, to keep themselves *au courant* with the improvements of medical science; and are, therefore, not qualified to lead the rising generations upwards, nor to keep them at that level of knowledge which the public have a right to expect. The chief error, as we have often shewn, lies in the multiplicity of the subjects, of which only a superficial and ephemeral knowledge can be acquired within the scanty time bestowed on the education of the majority of their candidates. The apothecaries of the present are not like those of the olden time, mere dispensers and man-nurses, but practitioners, in whose hands the lives of the great mass of the population are placed; they are now, in fact, if not in name, physicians and surgeons, and many of them worthily and well perform the duties of both. But the public ought to be secured that none others than are good should practise upon them; and this can only be done by raising the fence of examination over which impudent ignorance now too often leaps.

At the University of London, which now having commenced business in good earnest, will always claim consideration in plans of medical improvement, the first examinations deserve in general a full share of praise, and the fact, that of twenty-six candidates only sixteen were competent to pass them, proves that the questions set are *bonâ fide* demands upon the understanding. The standard of knowledge required for the complete answers of the questions is (as far as it is possible to judge by a single example) about equal to that set by the examination for the Bachelors' degree at Cambridge, and for the Licence of the College of Physicians; but the result of this first examination indicates that in the London University a return is expected, which shall be more justly proportioned to the demands than that which is sufficient at the other ordeals. In this they have judged rightly; examinations, like men, "should be what they seem;" and the Council may depend on it, that they will not in future have to reject so large a proportion of the candidates as on the first occasion. If we are not much mistaken, they will find, as all others have done, that they may have whatever they like to ask for.

The examination papers, and the results of this first examination, afford a better prospect of success than any thing that has hitherto occurred in the new University. We have often expressed the opinion, that their only chance of obtaining favour with the public would be to establish for their graduates a reputation for practical ability, without any regard to the extent of

their extraneous acquirements, or superficial general knowledge; and we readily confess that, though their whole scheme of education was directly opposed to the attainment of such a reputation, the character and result of the examinations are favourable to it. If the spirit which animates the Examiners could but spread to the Council, the University of London might yet hope to hold up its head among its competitors, and to obtain a solid reputation. Let only half the subjects to be learned be struck off, and the same accuracy of examination in the remainder be observed, and the public will not fail to repay the benefit of which they will soon be partakers.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

This society held its anniversary meeting at Liverpool, on Wednesday and Thursday, the 24th and 25th of July. Dr. Jeffreys, of Liverpool, was in the chair, and Dr. Symonds, of Bristol, delivered the retrospective address. We shall endeavour to make room for a detailed account of the proceedings in our next number.

UNIVERSITY OF LONDON.

DOCTOR OF MEDICINE.—1839.

PASS EXAMINATION.

Monday, August 5.—Morning, 10 to 1.

ELEMENTS OF INTELLECTUAL PHILOSOPHY, LOGIC, & MORAL PHILOSOPHY.

MORAL AND POLITICAL PHILOSOPHY.

Examiner, Mr. Thirlwall.

1. What is the general distinction commonly drawn between physical and moral science with respect to their objects? Examine the grounds of this distinction, and point out the limitations which it may seem to require. What is the meaning of the term *law* as applied to each of these subjects?

2. State the general nature of the questions that have arisen on (*a.*) the origin of moral sentiments, (*b.*) the criterion of morality, (*c.*) the ground of moral obligation. To what branch of philosophy does the first of these questions properly belong? Mention the most eminent philosophers of ancient and modern times by whom they have been discussed.

3. What English philosophers have contended for instinctive moral principles? Mention the different forms which may be given to this doctrine. State the pernicious consequences, in theory and practice, which its advocates and opponents impute to the systems which they respectively reject.

4. What appears to be the bearing of the history of society and civilization on the question of the moral sense? Mention any considerations which may seem to lessen the weight of the arguments against it founded on the diversity of customs observed in savage tribes.

5. Analyse the ancient quadripartite division of virtue, defining each member, and comparing it with any other you may be acquainted with. How would you show that it includes every kind of virtuous disposition, or that any is omitted in it? Wherein did the Stoics make virtue to consist? What modern systems come nearest to their views in this respect?

6. Explain Hume's distinction between natural and artificial virtues. To which class, and for what reasons, does he assign justice? Explain the meaning and application of his maxim, "that no action can be virtuous, unless there be in human nature some motive to produce it, distinct from the sense of its morality."

7. What, according to Reid, constitutes the virtuous quality of an action? What is meant by the epithet *indifferent* as applied to actions with respect to their morality? Is there any sense in which it may be properly said that some actions are morally indifferent, except so far as all may be said to be so?

8. State and account for the difference between the ancients and the moderns in their views of the relation between moral and political philosophy. What are the objects and limits of the science called the law of nature and nations?

9. Mention some of the most remarkable hypotheses which have been formed as to the state of nature, and the inferences which philosophers have drawn from them with regard to the rights of rulers and the duties of citizens. What are the limits assigned by the laws of human nature to the power of every government?

10. Enumerate the principles of human nature on which the continuance of every social order depends. What practical inconveniences arise from the supposition of an original social contract?

11. State the advantages of hereditary

royalty over the elective, and of the irresponsible over the responsible. By what contrivances in modern constitutions is irresponsible royalty prevented from degenerating into despotism without the necessity of resistance?

Monday, August 5.—Morning, 10 to 1.

INTELLECTUAL PHILOSOPHY AND LOGIC.

Examiner, J. H. JERRARD, D.C.L.

1. What is meant by the phrase "Laws of Nature"? How does Bacon briefly show the impossibility of discovering these laws by *à priori* reasoning? What are the four kinds of "Idola" which he points out as obstructing the mind in its pursuit of truth? Give an instance of each of them. What means does he propose for freeing the mind from their influence?

2. What is the true method of Induction as laid down by Bacon? Whence arises our conviction of the truth of the conclusions arrived at by this method? Why is it applicable to mind as well as to matter? What are the peculiar difficulties which attend the investigation of mental phenomena?

3. How does Brown prove that a close connection exists between the progress of the science of mind and of the other sciences; and what remarkable error in the Logical Theory of the Schoolmen does he bring forward in confirmation of this view? How does Locke illustrate the importance of our knowing the extent of our intellectual powers?

4. What kind of knowledge of Body and of Spirit are we capable of acquiring? How does it appear that the real essence of each is wholly unknown to us?

5. Point out the fundamental distinctions between the great modern schools of Intellectual Philosophy.

6. Locke, in endeavouring to account, conformably to his system, for the origin of our ideas of Space, Time, Infinity, Personal Identity, Substance, Cause and Effect, and Good and Evil, is charged, by one class of his opponents, with confounding the antecedents or consequents of these ideas with the ideas themselves: how is this charge supported in the instances of Personal Identity, Substance, and Cause and Effect? What, according to Cousin, is the source of our knowledge of the existence of an external world?

Monday, August 5.—Afternoon, 3 to 6.

MEDICINE.

Examiners, Dr. BILLING *and* Dr. TWEEDIE.

Case for Commentary.

A. B. æt. 60. Three years after an an attack of pleuro-pneumonia from which there was complete recovery, the breathing became somewhat oppressed, to which swelling of the extremities succeeded twelve months afterwards. In the course of the next two years he frequently suffered from pulmonary catarrh; the dyspnœa increased, and when medical aid was resorted to, the following symptoms were present,—dyspnœa, slight cough without expectoration, dull sound on the left side of the chest posteriorly, from the inferior angle of the scapula to the base of the thorax, with distinct ægophony and bronchial respiration. The sound on percussion and the respiratory murmur over the other parts of the chest were natural. The action of the heart, though diffused, was without undue impulse, but there was a distinct bruit in the præcordial region, at the lower end of the sternum, and under the clavicle. The pulse was not accelerated, but remarkably small and intermittent. The state of the skin was natural. Blood taken from the arm to relieve the dyspnœa was neither buffed nor cupped. During the succeeding night, delirium came on, the pulse rose in frequency, and was still small and intermittent. The delirium disappeared on the following morning; but the pulse did not diminish in frequency, and, for the first time, the expectoration was viscid and tinged. A crepitous râle was detected on some points of the right side of the chest posteriorly. The physical signs on the left were unchanged. Blood drawn from the arm exhibited the buffy coat, but the symptoms were not relieved by the venesection. On the two following days the breathing was still rapid, and the expectoration unaltered: the crepitous râle, without dulness of sound, on the right side continued: on the left, the sound was more dull, but the ægophony less distinct. The delirium, which had been transient, was now constant: the strength declined, the pulse became more feeble, and on the following morning death took place.

State the nature of the organic lesions in this case, and the morbid appearances you would expect to find on dissection. Detail the symptoms on which the diagnosis of the different lesions may be deduced, and the treatment to be adopted.

Translate the following passage into English:—

Celsus de Re Medica, lib. iii. cap. 23.

Tuesday, August 6.—Morning, 10 to 1.

1. What are the causes by which the Heart may be displaced?

2. Specify the different forms of Paralysis, and the lesions on which each form depends.

3. What is the nature of Purpura? Detail the states of the system with which it may be accompanied, and the appear-

ances observed in the internal organs in fatal cases. Give an outline of its treatment.

4. Detail the symptoms, diagnosis, and causes of Delirium Tremens. How should it be treated?

5. Detail the general symptoms and terminations of Pneumonia. State the physical signs which indicate its different stages, and the appropriate treatment of each.

6. Describe the paroxysm of Angina Pectoris. Specify the derangements of the system, functional and organic, with which it may be connected.

7. Specify the various functional and structural lesions which give rise to Ileus. Describe the progressive changes that take place in the intestinal canal in cases in which an invaginated portion is discharged.

8. State the varieties of Small Pox. Detail the symptoms and treatment of Confluent Small Pox.

Tuesday, August 6.—Afternoon, 3 to 6.

1. What are the symptoms by which granular degeneration of the kidneys may be recognized? What is the condition of the urine in this disease? Mention the secondary lesions which occur in its progress.

2. Specify the nature of the internal lesions with which Rheumatism is frequently complicated.

3. Detail the symptoms, diagnosis, and terminations of Schirrus of the Pylorus.

4. State the various causes by which Pneumo-thorax may be induced. Detail its physical signs and diagnosis, and give an outline of its treatment.

5. What are the symptoms of Diabetes? Detail the mode of treatment, remedial and dietetic.

6. Give the general symptoms and physical signs of Empyema. State the general measures to be adopted with the view of promoting the absorption of the fluid, and the circumstances which render the evacuation of the fluid by tapping expedient.

7. What are the symptoms, causes, and treatment of Scurvy?

8. Describe the external characters of the Scrofulous Diathesis, and the prophylactic treatment of Tuberculous Cachexia.

SPONTANEOUS HÆMORRHAGE INTO THE PERITONEUM

FOLLOWING SUPPRESSION OF MENSTRUATION.

Madame Rousset, æt. 29, of good constitution, felt for several weeks a painful sensation of tension and fulness in the umbilical region; but as she had ceased to menstruate, and had already had two children, she supposed that she was again *enceinte*, and did not take any medical advice. In the evening of the 13th of October last, after having been washing the door-steps, the pain, from having been slight, suddenly increased, and acquired, in the course of two hours, an alarming character. Her face was pale, her skin covered with a copious cold sweat, and she soon died with vomiting, diarrhœa, and frightful convulsions.

On examination, forty-eight hours after death, except for its excessive pallor, the body presented externally nothing anormal. The autopsy, however, left no doubt as to the seat of the disease; it was in the abdomen. About two *pots* of black and livid blood were effused into this cavity. The mesentery presented on its front surface several clots *en nappe*, and so did the mesocolon.

The heart, the principal arterial trunks, and all the principal trunks of the abdominal aorta, were carefully examined, and found healthy; the mesenteric vessels, traced as far as possible, were remarkable only for their size; but no rupture nor any trace of inflammation was discernible.

The uterus contained no embryo; its volume was less than that usually found in women who have borne children; it was even rather atrophied. There seemed no reason to doubt that the amenorrhœa produced excessive engorgement of the mesenteric vessels, from which hæmorrhage, without visible rupture, had taken place after laborious exertion in a position in which they were dependent.—*M. Lechaptois, in Arch. Gén. de la Médecine*, Juin 1839.

ON THE DIVISION OF CERTAIN MUSCLES IN THE

TREATMENT OF LATERAL CURVATURES OF THE SPINE.

By M. Jules Guerin.

The author of this paper announces that he has already practised twelve times successfully on subjects affected with this deformity—an operation which consists in the division of certain muscles of the back and vertebral column.

The muscles which he has hitherto divided are—the trapezius, the rhomboideus, the levator anguli scapulæ, the sacro lumbalis, the longissimus dorsi, and the semi-spinales.

I have long established, he says, that the greater number of articular deformities are the result of convulsive muscular con-

traction, dependent on an affection of the brain or spinal cord, or of the nerves themselves which are distributed to the muscles. This opinion naturally led me to the two following results for the diagnosis and treatment of these deformities, viz.—1st. That the various forms which each of these varieties is capable of assuming are the products of this contraction, differently distributed in different muscles; and 2d. That the active treatment of each of them must consist in the division of the tendons or the muscles, to whose contractions the special form of each is subordinate.

The following are, he adds, some details of the applications which I have made of this new method of treatment:—I have employed it on subjects of both sexes, and of different ages: the youngest was 13, the eldest 22 years old. All the curvatures were in the second or third degree, with twisting of the column, and gibbosity in proportion. In some a single division of the contracted muscles was sufficient; in others I was obliged to make two or three: in all I obtained immediately after the operation a marked degree of straightening of the column; and in one young man of 22, whose curvature had been submitted to mechanical treatment for eighteen months, I obtained, by dividing the longissimus dorsi and the semispinalis, an immediate removal of the whole curvature. In others I have been able to pursue the treatment by mechanical means with complete and constant success. In none of the twelve operations have I met with the least accident; neither hæmorrhage, nor fever, and but little pain is produced; and with one exception immediate union of the wound has taken place. I may add, that though delicate, this operation may be performed almost as easily and by analogous means to those employed in the neck for torticollis, and about the foot for club-foot. — *Comptes-Rendus*, Juin 24, 1839.

BLACK AND WHITE.

The offspring of a white man and black woman is a *mulatto*; the mulatto and black produce a *sambo*; from the mulatto and white comes the *quadroon*; from the quadroon and white the *mustee*; the child of a mustee by a white man is called a *musteefino*; while the children of a musteefino are free by law, and rank as white persons to all intents and purposes. I think it is Long who asserts that two mulattoes will never have children; but, as far as the most positive assurances can go, since my arrival in Jamaica, I have reason to believe the contrary, and that mulattoes breed together just as well as blacks and whites; but they are almost universally weak and effeminate persons, and thus their children are very difficult to rear. On a sugar estate one black is considered as more than equal to two mulattoes.—*Journal of a West India Proprietor, by M. G. Lewis.*

A FAIR OFFER.

At the last sitting of the Phrenological Society, a discussion having arisen on magnetism, M. Bouillaud offered a prize of 1000 francs to any magnetizer who should be able to shew him a somnambulist reading when her eyes are covered by a bandage. M. Bouillaud insists only on two conditions—1st, that he is to put on the bandage himself; 2dly, that the experiment is to take place before twelve persons not interested in the question.—*Gaz. des Hôpitaux*, July 27, 1839.

We learn from the Gazette Médicale of Aug. 3, that at the sitting of the Academy of Medicine on the 30th of July, M. Burdin announced that he would give the prize of 3000 francs that he had promised on easier conditions than before. He will be satisfied if the magnetized person can read through a piece of cloth or calico, or even a sheet of paper; and he extended the time from October 1839 to October 1840.

SIMPLE METHOD OF TREATING DISLOCATION OF THE CLAVICLE.

To the Editor of the Medical Gazette.

Sir,

The following method of treating dislocation of the clavicle may appear to you, perhaps, not less worthy of notice because it is simple. A collier, while at work in a coal-pit near this town, received a large quantity of material upon his shoulders; the consequence was dislocation of both extremes of the left clavicle. The usual means proving insufficient to retain the sternal end (which projected over the sternum more than half an inch) in its proper situation, the *back-board* suggested itself, and on trial was found to answer the purpose most satisfactorily. It is unnecessary to add, that it would not be less useful in cases of fracture.—I am, sir,

Your obedient servant,

Jos. Thomas, M.R.C.S.

Wrexham, July 29, 1839.

NOTE FROM MR. LYON.

To the Editor of the Medical Gazette.

Sir,

May I beg the favour of your inserting the following communication in your valuable journal, at your earliest convenience.

I have the honour to be, sir,
Your obedient servant,
I. Lyon, M.R.C.S.L.

25, Montague Street, Russell Square,
August 5, 1839.

In some of the articles which have lately appeared in your journal respecting the unfortunate case of the late Joseph Hall, it has been assumed that the surgeon who injected the Eustachian tubes had not sufficient anatomical skill and knowledge to perform the operation, and thence a chain of reasoning has been attempted to account for the death. To shew the fallacy of this mode of argument, I shall refer to two operations of great magnitude performed by me, and recorded in the Medical Gazette of the 12th October, 1833, and 22d February, 1834. These were cases of tumors situated directly upon and in contact with the common carotid arteries, both of which had a successful termination. One of these tumors was considered by the celebrated surgeon, Mr. Liston, of sufficient interest to be placed in his collection of morbid anatomy; the other is in my own collection. The operation of injecting the Eustachian tubes is considered by aurists of eminence as one of the minor operations of surgery. Mr. Pilcher, in his prize essay on Diseases of the Ears, states, at page 308, that "a little experience renders the introduction of the catheter through the nose one of the *easiest* of the *minor* operations in surgery." I shall leave the profession to judge whether a surgeon capable of performing the operations above alluded to was not also capable of performing one of the easiest of the minor operations of surgery.

BOOKS RECEIVED FOR REVIEW.

The Cyclopœdia of Anatomy and Physiology, edited by Robert Todd, M.D. F.R.S. &c. Part XVII. containing Hybernation, by Dr. M. Hall; Hip-Joint (Normal Anatomy), by H. Hancock, Esq.; Ditto (Abnormal Conditions of), by R. Adams, Esq.; Hyperæmia, by Dr. Todd; Hypertrophy, by ditto; Iliac Arteries, by Dr. Alcock; Innominata Artery, by H. Hancock, Esq.; Insecta, by G. Newport, Esq. Sherwood and Co.

A Practical Treatise on the Human Teeth. By William Robertson. 2d Edition, 8vo. with plates, pp. 205.

Deafness Cured by Clearing out the Passages from the Throat to the Ear, &c. With Notes and Cases. By James Yearsley, M.R.C.S. &c. London, 1839. Small 8vo. pp. 53.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 1, 1839.

Joseph Cave Spicer Jennings, Salisbury.—John Hutchison.—John Miles, Epping, Essex.—Julian Edward Disbrowe Rodgers.—Henry Hill, Stourbridge.—William Carey Coles, Bourton-on-the-Water.—William Henry Galsworthy, London.—Charles Thorngate Weston, London.

Aug 8, 1839.

Frederick Le Fevre, Malton.—Wm. Prichard, Llandaff.—Thomas Wm. Garlike, Somerset.—Christopher Robert Pybus.—Wm. Waller Needham, Tunstall, Lancashire.—George Johnstone, Liverpool.—Henry James Hinxman.—Jeremiah Wase.—William Loughridge.

*** Errata, July 25.—*For* "Leonard," &c. *read* "Leonard Aust Lawrence."

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Aug.* 6, 1839.

Age and Debility	14	Heart, diseased	1
Apoplexy	2	Hooping Cough	1
Asthma	5	Inflammation	15
Cancer	1	Bowels & Stomach	1
Childbirth	2	Brain	4
Consumption	22	Lungs and Pleura	3
Convulsions	10	Insanity	2
Dentition	6	Measles	6
Dropsy	8	Paralysis	2
Dropsy in the Brain	2	Small-pox	2
Dropsy in the Chest	1	Thrush	1
Fever	10	Unknown Causes	258
Fever, Scarlet	3		
Fever, Typhus	1	Casualties	4

Increase of Burials, as compared with the preceding week . . . 109

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

August.		Thermometer.		Barometer.	
Thursday	1	from 52	to 69	29·82	to 29·95
Friday	2	50	73	29·99	29·98
Saturday	3	52	79·5	29·97	30·06
Sunday	4	58	71	30·14	30·18
Monday	5	49	71	30·20	30·18
Tuesday	6	40	73	30·12	29·97
Wednesday	7	55	67	29·82	29·79

Winds, W. and S.W.

Generally clear, except the 7th, when it rained all the morning; vivid lightning and distant thunder, with little rain in the evening.

Rain fallen, ·2 of an inch.

Charles Henry Adams.

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, AUGUST 17, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Cystitis.—Inflammation sometimes attacks the mucous membrane of the bladder, and has been divided into the acute and chronic forms. The acute form is attended with a burning pain, with a sense of throbbing, and there is a feeling of tightness and constriction in the hypogastrium. The pain is much increased upon pressure, and speedily extends to the parts in the neighbourhood. There is a constant desire of making water, but after violent and continued efforts the patient passes about a tea-spoonful, or at most a table-spoonful. Whatever urine is passed is of a deep red colour, and very high specific gravity—from 1025 to 1030. It is not perfectly transparent, but somewhat opaquish, generally depositing a sediment, which is frequently mixed with blood. In some cases the absolute quantity of urine passed is below the natural proportion; but even if this is natural, or even exceeds the healthy quantity, yet there is still the frequent desire, with scanty micturition; this depends upon the mode of secretion. The urine is constantly secreted by the kidney, and is always flowing through the ureters into the bladder, so, perhaps, that not more than a drop or two may enter the bladder at a time. From the highly irritable state of the mucous membrane, the moment any urine enters the bladder it irritates the mucous lining, and causes excruciating pain. The irritation is extended by the stimulus of *contiguity* to the muscular coat of the bladder, and it is thrown into violent and laboured contractions; but there being as yet but a few drops of urine, this cannot be expelled; but when the quantity increases to about a table-spoonful, the contraction of the bladder expels it, and there is both a painful and scanty micturition.

The pulse is frequent, hard, and wiry, sometimes full. As the disease advances it becomes irregular, the skin is dry and hot, and there is most distressing thirst. The disease still proceeding, the pain now extends to the other viscera, and particularly to the rectum. Hence there arises tenesmus, or a constant desire of going to stool, with a total inability of passing any thing. At the same time there is great restlessness, anxiety, sickness, and even vomiting. If the disease be not relieved, the abdomen becomes tense and tumid, almost as in peritonitis, to which succeeds twitching of the muscles. To these succeed painful tumefaction of the loins, with rigors, coldness of the extremities, or cold clammy sweats, watchfulness, and delirium. At length the urine dribbles away involuntarily, convulsions come on, in which the patient generally expires.

The inflammation, it is said, generally occupies the lower part and neck of the bladder, in which case the symptoms will vary somewhat. Thus, if the inflammation be so situated, there will be a retention of urine, the sphincter being spasmodically contracted, and refusing an exit to the urine. If a catheter be introduced, the moment it enters the bladder the pain is almost intolerable. In other cases the inflammation is seated in that part where the ureters enter. In this case they may become involved, their coats thickened, and their mouths closed up, so as to prevent the urine flowing into the bladder, producing an apparent suppression, with

all its consequences. In this case it is that the pain is most severe on pressure of the hypogastrium. When the posterior part of the bladder is the seat of the inflammation, then the rectum becomes sympathetically engaged, and there is the tenesmus, as already described.

The appearances on dissection shew that not only the mucous lining is affected, but that the inflammation spreads to the other parts of the bladder, and the peritoneal covering has been found participating in the disease; and hence the bladder is often found agglutinated to the parts in the neighbourhood, more particularly the rectum. However, the severest signs of disease are generally observed about the neck. The mucous coat is sometimes a complete tissue of redness, while the natural appearance is pale. "The inner membrane of the bladder," says Wilson, "has not in the natural state many vessels large enough to contain red blood; but when inflamed, the trunks enlarge, and the minute vessels are then found to be sufficiently numerous to impart a florid red appearance to the whole surface. When the inflammation runs high, the muscular coat may be affected, and sometimes the peritoneal also; but as the inner membrane is loosely attached to the muscular, the inflammation is often prevented from extending from the one to the other*." Ulceration and tuberculated induration of the bladder may occasionally result from acute inflammation, but they more frequently result from the chronic form. I once saw an instance in which, during the acute stage of inflammation, enormous quantities of pus were secreted and thrown off by the mucous coat of the bladder, similarly to what takes place in acute bronchitis. The patient sunk, and on dissection the mucous membrane appeared as one red mass, covered with pus, without any ulceration. Sometimes gangrene has been observed after acute inflammation; it will certainly prove fatal.

Dr. Prout mentions a species of inflammation attacking the bladder in gouty persons who have suffered from urinary derangements, he says, ultimately involving the whole system. This affection is not strictly inflammatory, the circumstances attending it differing altogether from those of common inflammation. It occurs after or during attacks of irregular gout, commencing with slight rigors, followed by feverish exacerbations, attended with unusual prostration of strength and mental depression. The constitutional symptoms soon become more severe, the pulse becomes excessively frequent, the skin hot and dry, with nausea or actual vomiting, and there is delirium, with all the symptoms of irritative fever of the severest kind. Up to this period the urinary system is not, apparently, much affected, and the patient, even on inquiry, makes no complaint of this sort, and even bears pressure without inconvenience. The symptoms, however, increase in spite of every remedy; at length there is retention of urine, and a tumor is observed in the hypogastrium. The patient sinks rapidly; lividity of the whole urinary organs, and of the contiguous parts, speedily ensues, to which death soon succeeds.

The nature of this affection is obscure; some, perhaps, may think it of a gouty character. Dr. Prout thinks the inflammation more closely resembles the diffuse or erysipelatous kind. The appearances, however, after death, have not been much examined.

Causes.—The causes are those of inflammation in general, as also certain others of mechanical operation, derived from the functions of the bladder. Of this kind we may more particularly mention the presence of calculi, which, by the mechanical irritation which they produce, may excite inflammation. External injuries, blows in the hypogastric region, violent exercise, protracted retention of urine, exposure to cold and damp, &c., may be ranked amongst the exciting causes of cystitis. Gonorrhœa suddenly suppressed by astringent injections, or stimulating remedies, before the inflammation has been reduced, may give rise to inflammation of the bladder. Indeed, the severest instance I ever saw was brought on by an immoderate use of cubebs to speedily suppress gonorrhœa. Not only the bladder, but the kidney and testicle were very violently inflamed in this instance; nor was the inflammation subdued till the patient's health had suffered, and his strength was greatly exhausted. Repelled gout, the exanthemata, the sudden cessation or suppression of habitual discharges, more especially of blood, as of the hæmorrhoids, acrid and highly stimulating diuretics, cantharides, turpentine, high-seasoned foods, the immoderate use of strong wines or ardent spirits, may excite acute inflammation of the bladder; and, perhaps, we may add to these, the but too frequent abuse of catheters, bougies, and other urethral instruments.

Diagnosis.—Acute inflammation of the bladder is to be determined not by a single symptom, but by the aggregate of all the circumstances. Thus, if we have an acute and burning pain in the hypogastrium, much increased upon pressure, dysuria, with frequent and scanty micturitions, and tenesmus, we may safely pronounce the disease inflammation. In the more

* Lectures on the Urinary Organs.

obscure cases, sounding will generally decide the presence or absence of a calculus.

Prognosis.—Acute inflammation of the bladder is a very dangerous affection. Even in the young, healthy, and vigorous, if subdued, it often leaves behind consequences which harass the patient for a time, undermine the health, and ultimately prove fatal. In the old it is apt to terminate fatally; but should this not be the case, the evils it superinduces are of the most distressing nature. The most common result is, such a state of the mucous lining as renders the bladder at all times extremely irritable, and an almost insurmountable tendency to repeated attacks of catarrhus vesicæ. In all circumstances, therefore, inflammation of the bladder is to be looked upon with suspicion, and if it occur in the old, the prognosis can hardly ever be favourable.

Treatment.—The general treatment is much the same as in the other phlegmasiæ. Bleeding largely, and in quantities proportioned to the violence of the symptoms and the urgencies of the case, is the first object to be accomplished. Some of the French practitioners recommend the blood to be drawn from the foot; but it is probably of little moment from whence the blood be taken, provided it can be abstracted in sufficient quantity and with sufficient rapidity. The general treatment should be followed by local bleeding, by means of cupping, leeches, &c. applied over the hypogastrium, and to the perineum. The bleeding should be promoted by warm fomentations, the semicupium, and emollient clysters. The bowels should be opened by the milder aperients, as castor oil, infusion of senna, and laxative enemas. To relieve the irritability of the bladder, hyoscyamus or opium should be given in sufficient doses. The bowels also should be kept open by mild aperients and laxative clysters, and care should be especially taken that no fæcal accumulation take place near the rectum. In this, as in nephritis, it is recommended to give calomel combined with opium; but I would observe upon this, as before, that mercury, if its specific effects be excited in the system, has generally appeared to me to do harm in the inflammatory diseases of the urinary system; therefore, they who employ this remedy will be cautious in the use of it, and watch its effects.

As the pain and irritation of the bladder are greatly aggravated by the acrimony of the urine, we should endeavour to render this as bland and as dilute as possible. Hence, mucilaginous drinks may be taken in abundance, and perhaps none are preferable to the mistura amygdalæ, already mentioned. Colchicum also has appeared to me to exert a very beneficial effect in all forms of cystitis, and may therefore be given with some one or other of the medicines. We should also attend to the state of the urine, and if there be any tendency to alkalescence, this should be corrected by the limited use of the phosphoric acid. When the more urgent symptoms have been subdued, counter-irritants may be applied to the hypogastrium—a mustard cataplasm, for instance. Blisters are questionable, and when used should be kept on only for a short time, and the discharge kept up by proper dressings. Sometimes, in consequence of the irritation, a spasmodic action of the sphincter vesicæ takes place, thus giving rise to a most distressing retention of urine. In such cases it may be necessary to draw off the urine by the catheter; but in doing this great care is required, to avoid increasing the pain and sufferings of the patient. Some of the French practitioners recommend injecting the bladder with mucilaginous fluids, to correct or protect it from the acrimony of its contents; and if all other means fail of affording the necessary relief, this method may be adopted with considerable advantage. By the above means we may often succeed, in favourable circumstances, in relieving, or indeed in wholly subduing, the inflammation; but in many instances a diseased condition of the mucous membrane, ultimately terminating in the affection next to be considered, is left behind.

Cystirrhœa, or catarrhus vesicæ.—This affection is sometimes the consequence of acute inflammation of the bladder; but it frequently comes on suddenly, and without any obvious cause. In some instances the attack is preceded by oppression of the stomach, with spasm, and an extreme degree of relaxation of the bowels. The patient also complains of sharp piercing pains, with a sense of burning and spasms in the hypogastrium. A weight is felt in the perineum, and there is a tendency to piles. As the disease becomes more completely established, there is a frequent and urgent desire, with inability, to pass the urine; and this at the beginning appears to depend upon spasm at the neck of the bladder and in the urethra. The urine is found to contain a quantity of mucus of a more or less adhesive character, and which subsides to the bottom of the utensil. For the most part, at the beginning there is slow fever, with great weakness of the back and loins; the patient complains of great thirst, which cannot be satisfied, and his rest is completely broken. This, the irritation, and the unnatural drainage from the system, causes, if the disease be protracted, great exhaustion and emaciation; and the patient is either cut off by

the disorganization excited, or he dies of the extreme exhaustion.

The urine varies in its characters according to the circumstances. In incipient or slight cases, the urine when first passed appears of a whitish colour, somewhat opaque and turbid, and after standing for a few minutes minute flocculi are seen floating about in it. On remaining at rest for a sufficient time, a mass of adhesive mucus will be found deposited at the bottom of the vessel, and the urine above either perfectly transparent or nearly so. In these cases, tested by litmus paper, the urine has an acidulous reagency, that is, reddens the litmus; nor is it otherwise very unnatural. The mucus itself is generally alkaline, but occasionally neutral. In some cases the specific gravity of the urine is high—1·025 and upwards—and then it will be found to contain urea in excess, and if allowed to stand soon becomes alkaline.

The mucus itself also varies in different cases, or even in the same case at different times. In some the mucus is uniformly diffused through the urine, subsiding only after a time, and may be again diffused through it by agitation; in others it is so viscid and tenacious, that once it has been allowed to collect into a mass, it cannot again be mixed with the urine. In the severe cases, too, the quantity is sometimes enormous. In a case which came under my observation at Chelmsford, the quantity averaged about eight pints for several days. The pain and desire to pass the urine were incessant, and the mucus was so tough and partially concreted into coagulums, as to prevent the passage of the urine, giving rise to a most painful distension of the bladder. It was at first suspected that the symptoms arose from a stone in the bladder, but the surgeon, on sounding, could not discover any calculus; and when the catheter was introduced, to relieve the retention by drawing off the water, only a few drops passed, the perforations of the instrument being immediately closed up by the viscid mucus.

After repeated and very painful efforts, sometimes a greater quantity of urine is passed; and, on pouring off the fluid portion, a great quantity of mucus, sometimes extremely tough and stiff, is often ound at the bottom of the utensil; and this is so tenacious that it adheres even though the vessel be inverted. When the mucus undergoes this sort of imperfect coagulation, it seems to depend upon the admixture of a considerable proportion of fibrin. The mucus generally has a somewhat opaque appearance, sometimes quite so, and even becomes dark. In the more advanced stages, it becomes of a yellow or greenish colour, and assumes the characters of pus. Frequently it is found mixed with blood; the urine at the same time loses its transparency, becomes coagulable from containing serum, and will now be found so alkaline as to redden turmeric paper immediately on being evacuated from the bladder.

Catarrh of the bladder, when occurring in old people, or when long protracted, is generally complicated with disorganizations; frequently ulceration of the bladder and the prostate, if not affected from the beginning, soon becomes involved. If the bladder be ulcerated, there are often severe hæmorrhages, and if the urine be very unnatural, we may presume that the kidneys have become more or less affected.

The more severe forms of this affection may be considered as principally confined to old persons. The patients in whom I have seen it most severe, have been approaching to or upwards of sixty. The patients, too, were gouty subjects, and who had suffered from repeated paroxysms of this disease; and there either is or has been a tendency to cutaneous eruptions of various characters. In such, if they have lived freely, have been much addicted to venery, have suffered from gonorrhœa, strictures, and similar irritations of the urinary organs, there is a strong tendency to severe attacks of catarrh of the bladder. Irritable and scrofulous habits, too, in advanced life, are subject to this disease; and it seems induced by mere exposure to cold or damp; during which periods, persons subject to it suffer much more severely in cold weather. Among the exciting causes may be enumerated stimulating or acrid diuretics, severe exercise on horseback, hæmorrhoids, &c.; but very often it comes on, in those predisposed to it, without any obvious cause.

This disease, when once completely established, may be considered as of a very obstinate character; and, from its being so constantly associated with organic disease of the bladder, mostly incurable. In many, however, it assumes a mild character, occasionally appearing and disappearing at intervals, in the intermitting form, especially when the patient is troubled with hæmorrhoids or with certain cutaneous affections. If long protracted, it may occasion paralysis of the bladder. On dissection after death, the bladder shews various morbid appearances. The mucous coat always is turgid, with enlarged blood-vessels presenting a perfectly red appearance, and in some cases it seems as if in a completely varicose state. In one or two instances which I had an opportunity of examining, the bladder appeared as a completely red tuberculated mass, much thickened in all its coats,

and ulcerated in three places. It is evident, however, that the morbid appearances will be much varied by accidental circumstances. The disease, however, uniformly presents a diseased state of the vascular tissue of the bladder, and which has been in all probability erroneously looked upon as of an inflammatory character. But the morbid vascularity upon which these affections seem essentially to depend, appears to be of a very different nature.

Treatment.—When this disease occurs in younger subjects, or is the consequence of acute inflammation, the urine will be found to differ from that of the more inveterate forms. In such the urine is often decidedly acid, high coloured, and of medium specific gravity. Moderate antiphlogistic measures are suited to such cases, and therefore, cupping the loins, and the application of leeches, will be found serviceable. But in the more inveterate cases, and where the qualities of the urine are such as have been already described, these means will seldom be necessary, and even when requisite, should never be carried to the same extent. The first thing, however, will be to regulate the bowels, which must be effected by mild aperients and laxatives, as castor oil; and if this do not prove sufficiently active, it should be assisted by enemas. At the same time gentle astringents should be given, together with sedatives. The uva ursi is, perhaps, one of the most valuable of the class, and it may be given either in extract or infusion. As an extract, it may be given in the form of pills, combined wtth the sedatives*.

The urine, in the severe forms, as already stated, is alkaline, and then the irritation of the bladder is much increased. We must, therefore, endeavour to alter the condition of the urine as speedily as possible. This is best effected by the administration of some of the indestructible acids and the hydrochloric; or, what perhaps is preferable, the phosphoric acid should be administered internally, for which purpose we cannot do better than combine it with one of the urinary astringent infusions†. Those most celebrated are buchu (*Diosma crenata*), pareira, Alchemilla arvensis, or parsley breakstone. Hydrochloric acid checks the secretion of mucus, but, it is said, increases the irritation in the bladder. "The muriatic acid, on the contrary, assisted by plentiful dilution, has sometimes, in a remarkable degree, the effect of checking the mucous secretion; but it is also liable to increase the irritation of the bladder, in which case it may be necessary to lay it aside altogether*." The phosphoric, again, not only corrects the chemical condition of the urine, but also hold this mucus in solution, which is precipitated by alkalies. "At first," says Marcet, "this mucous secretion is probably only a consequence, but it soon becomes a concurrent cause of urinary concretions. The use of alkalies unfortunately tends to increase this inconvenience, by precipitating from the urine the mucus which is held in solution by the redundant phosphoric acid†."

By these means, unless in the most obstinate cases, we shall generally succeed in relieving the patient from at least a great portion of his sufferings. Some, indeed, recommend balsamic remedies and other urinary stimulants; but I have never seen them do any good, but often, on the contrary, a great deal of harm.

But in some cases of a very inveterate description, more especially if the treatment has not been judicious at first, or has been too long delayed, the mucus gets so coagulated that it will not pass off with the urine, and, forming masses in the bladder, causes much irritation and distress to the patient. It is in such cases that the injection of the bladder with the phosphoric acid, largely diluted with distilled water, does so much good. I have already mentioned the case of an old gentleman to whom I was called, and who was suffering very severely from this disease. The mucus was so viscid and tough that it choaked the perforations of the catheter, and hence the urine could not be drawn off. As the bladder became dis-

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* R. Sulphatis Morphiæ, gr. i.—iij.; Pulveris Ipecacuanhæ, gr. iij.; Potassæ Sulph. sc. j.; Extract. Uvæ Ursi, dr. j.—ij. M. Ft. massa in pilulas idoneas sing. pendent. grana quinque, quarum capiat æger ij. vel iij. ter quaterve in die.

† R. Infusi Pareiræ, dr. x.; Ext. ejusdem gr. v.; Acidi Phosphoric. Dil. min. x.—xl.; Tinct. Hyoscyami, dr. ss.; Syrup. Papav. dr. j.; M. Ft. haust. ter quaterve in die sumendus.

℞ Infusi Diosmæ, dr. x.; Extract. Pareiræ, Extract. Uvæ Ursi utriusq. gr. iij.; Acid. Hydrochlor. Dil. min. x.; Acid. Phosphor. Dil. min. xii.; Tinct. Hyoscyami, dr. ss.; Syrup. Papav. dr. j. M. Fiat haustus ter quaterve in die repetendus.

* Marcet on Calculous Disorders, p. 175. Dr. Marcet's observations apply to the mucus secreted during the calculous diathesis; but in the inveterate forms of catarrhus vesicæ, I have never found the hydrochloric acid produce irritation; on the contrary, by correcting the chemical condition of the urine, it has mostly produced a soothing effect. In slight or recent cases, perhaps a long-continued use of the acid might be attended with some slight degree of irritation.

† Ibid.

tended, the urine kept dribbling from the urethra in drops, and began to produce excoriation of the cellular tissue. Under these circumstances I had the bladder injected with the phosphoric acid; and after two or three times, with the means directed above, the mucus became much more fluid, and was passed in very great quantity; and in about three weeks the patient was relieved from all the symptoms of his disease. But in another case, in which there was a scirrhous state of rectum, neither injection of the bladder nor any thing succeeded, and the patient died comatose or apoplectic; indeed, it should not be lost sight of, that such patients are always liable to die suddenly apoplectic.

When we have succeeded in evacuating the existing mucus, and in controlling the future secretion, we may proceed to give some tonic. Perhaps there may not be any grounds for preference; but, from my own experience, I should say that I think the tinctura ferri sesquichloridi the best. I have been in the habit of using it, and mostly with very good effect. Upon occasions, especially if the urine appears to be getting natural or manifests any tendency to alkalescence, we may add a few drops of the hydrochloric acid.

The regimen, both during the prevalence of the disease and during the convalescence, should be strictly attended to. The bowels should be properly regulated by mild aperients; the diet light, nutritive, easy of digestion, and free from all stimulating condiments. Moderate exercise will be beneficial, but severe or fatiguing exercise may bring on relapse; therefore riding in a carriage upon rough roads, or upon horseback, should be avoided, as also exposure to cold and damp, especially in winter, during which season the patient should protect himself from the agency of cold by sufficient and warm clothing; and, if possible, residence in a milder climate during this season would be advisable.

Strong stimulating drinks also will be bad; but if any thing of this sort be necessary, some of the light acescent wines may be permitted. As the state of the urine will often afford evidence of an approaching attack, I need hardly observe that this should occasionally be carefully examined.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S. Sorbon.

ON THE TREATMENT OF INFLAMMATION OF THE CONJUNCTIVA.

Treatment of conjunctivitis—Simple conjunctivitis—Conjunctivitis with chemosis—Partial conjunctivitis—Papular conjunctivitis—Granular conjunctivitis—Purulent conjunctivitis—Gonorrhœal conjunctivitis—Purulent conjunctivitis of Egypt.

Treatment of Conjunctivitis.

The treatment of conjunctivitis, like that of all other surgical diseases, may be either general or local. The general treatment is regulated by the constitution of the patient, and the symptoms to which the malady may give rise. The local treatment, on the contrary, is directed against the lesion itself. In conjunctivitis, as, indeed, in all the various inflammatory actions we have yet to study, local treatment is more especially to be depended upon. I do not mean to assert that general remedies, such as bleeding, purgatives, &c. should be banished from the treatment of these diseases; you must be well aware that circumstances too numerous to be mentioned render them often useful, and in some cases even necessary. I wish you, however, to understand that the action of these agents is indirect, that they undoubtedly assist in effecting a cure, but in most instances are not sufficient to produce it of themselves. My ideas on this subject have not been formed *à priori*, but are founded on numerous facts and experiments, which have led me to the conclusion that local remedies ought to occupy the first place in the treatment of ophthalmia.

On examining the local agents which we can employ in the treatment of these affections, we shall find that, as in blepharitis, astringent applications are to be preferred. The treatment of the several forms of conjunctivitis, although not essentially different, presents, nevertheless, modifications of sufficient importance to induce me to treat separately the remedies applicable to each.

Simple Conjunctivitis.

When the inflammation is slight, you will often find that bathing the eye with some emollient liquid, such as an infusion of marsh mallow or linseed, or even with

te pid water alone, will in a few days dissipate every inflammatory symptom. If, however, the inflammation is intense, these means no longer suffice, and you must have recourse to astringent applications, under the form of collyria. The substances generally employed by practitioners are, sulphate of zinc, acetate of lead, or nitrate of silver. The different preparations of the nitrate of silver, which you see me use so frequently, and to which I wish more especially to draw your attention, are by no means modern remedies. The ancients recommend the nitrate of silver, but only as a caustic, in cases of chronic conjunctivitis. Now you must have observed, that in our wards this remedy is principally used as a collyrium or ointment in cases of acute inflammation, and that the success attending this practice is really surprising. Regent, Janin, and Scarpa, who speak in high terms of the nitrate of silver, appear only to have employed it as a caustic. I cannot, however, admit that it acts as a caustic only; its action, in many cases, is certainly resolutive, and the rapidity with which it arrests the progress of inflammation in intense conjunctivitis is a decided proof that I am warranted in making this assertion. You have, indeed, seen numerous instances this year, in which the inflammation has been thus rapidly arrested.

Whatever may be the mode of action of the nitrate of silver collyrium, it deserves the decided preference of practitioners. The experiments I have made to ascertain its efficacy are so numerous that I have no hesitation in speaking thus decidedly. I must, however, add, that it is more especially in simple conjunctivitis that the effects of the nitrate of silver are rapid and undeniable I generally commence with a solution, containing half a grain to an ounce of distilled water, for children, and a grain or a grain and a half to the same quantity of water for adults; the proportion is afterwards gradually increased. When the solution has been used for a short time it should be laid aside for two or three days, and then again employed as before; and the treatment should be thus continued until the inflammation is entirely subdued.

During the first few days you employ the collyrium, the inflammatory symptoms are often exasperated, and this might create doubts in your mind respecting the efficacy of the remedy—the more so, as when its use is suspended, the inflammation diminishes, and the disease appears to progress rapidly towards a favourable termination. The patients themselves, indeed, are generally inclined to think that the treatment they have undergone has done them more harm than good; but a well-informed medical practitione will never entertain such an opinion, a the above mentioned phenomena are in perfect accordance with the laws of pathology.

The solution must be again employed after a few days' intermission, as I have already stated. Were it to be discontinued, from erroneous views respecting its action, the disease would, in all probability, return with greater intensity even than before.

I must also add, that the efficacy of the nitrate of silver collyrium depends, in a great measure, on the manner in which it is applied, it being absolutely necessary that every portion of the inflamed conjunctiva should be brought into contact with the solution. I need scarcely say, that it ought never to be employed as a lotion; two or three drops only should be introduced between the eyelids night and morning. To effect this, the patient must lean his head back, and then, separating the eyelids as far as possible, you allow two or three drops to fall from the phial on the eye. You should then immediately close the eyelids, and keep them in contact for a few seconds, at the same time directing the patient to move the eye in various directions.

I have entered into these details respecting the nitrate of silver collyrium because it is, without exception, the remedy on which we may place the greatest reliance, not only in the affections which we are now studying, but in several others of which I shall have to speak hereafter. We must not, however, forget, that in many cases local treatment alone is not sufficient, and that we are then obliged to have recourse to general means. Thus, if the inflammation is intense, and the patient of a plethoric habit of body, it becomes necessary to bleed. In some cases of this nature I have derived great benefit from bleeding *coup sur coup*, according to M. Bouillaud's method. If, on the contrary, there appear to be slight symptoms of gastric irritation, purgatives may be resorted to. In a word, general symptoms, whatever they be, when they exist, should be treated as in all other inflammatory affections.

Conjunctivitis with Chemosis.

I have described two forms of chemosis essentially different from one another; you will not, therefore, be surprised to hear that the treatment of each of these forms is also essentially different.

When you meet with the inflammatory or phlegmonous chemosis, you must at once have recourse to antiphlogistics, following up the treatment with greater or

less energy, according to the degree of intensity of the inflammation. In these cases bleeding from the arm *coup sur coup*, and leeches applied to the temples or to the mastoid region, are often attended with very favourable results: I have in many instances found this practice exceedingly beneficial. Direct applications have also been much employed in this, the acute form of chemosis. From the earliest periods, surgeons have attempted to bring about the resolution of the inflammation by scarifying the injected tissues. The ancients, you well know, performed this operation with barley-spikes. I am, however, inclined to think that scarification of the conjunctival vessels does not deserve the praise given to it not only by the ancients, but also in our own times by M. Demours, and by English practitioners, who, I believe, employ it pretty generally. M. Sanson says he has found scarification in some instances a valuable remedy. It may be so; as, however, my experience on the subject has not been very extensive, I do not feel warranted in giving a decided opinion. I must, at the same time, remind you, that we have in our possession a more efficacious, and certainly less dangerous remedy; I allude to leeches applied to the surface of the conjunctiva itself. In 1817 I made several experiments, at Tours, with M. Bretonneau, to ascertain the effects produced by leeches thus applied; and I must say we always found that the patient derived great benefit from their application.

I do not wish entirely to banish scarifications from the treatment of inflammatory chemosis, as cases may occur in which they ought to be resorted to; but these cases are rare; general blood-letting and leeches, applied as I have stated, are almost always sufficient to subdue the chemosis. I seldom have recourse even to leeches; not that they cause much pain, but from the trouble attending their application. They are not, it is true, long in filling themselves, but they have to be applied one by one, which makes it rather a tedious affair.

To resume, the following is the course I generally pursue. I begin by general and local blood-letting, regulating the quantity of blood extracted, and the number of times the operation is repeated, according to the intensity of the inflammation and the constitution of the patient. If these general means are not sufficient to calm the inflammatory symptoms, I then apply leeches to the conjunctiva. When the tumefaction and inflammation have subsided, I have recourse to the nitrate of silver collyrium. By thus uniting general and local treatment, I frequently succeed in subduing the chemosis in the course of a few days; and should you adopt this plan in your practice, I am convinced it will be followed by the same results.

The second form of chemosis—the serous or œdematous form—not being essentially of an inflammatory nature, it is no longer necessary to resort to general or local depletion. Purgatives seem to be the most useful remedy we can employ in this affection; and among them calomel, given in Rasorian doses, occupies undoubtedly the first rank. Here again, however, the nitrate of silver collyrium is the agent on which we must chiefly depend for a radical and definitive cure of the disease.

Partial Conjunctivitis.

The treatment is the same in this form of inflammation as in simple conjunctivitis. I shall therefore confine myself to a caution respecting the use of the nitrate of silver collyrium. It must be employed with rather more circumspection than hitherto, and applied, as far as possible, to the parts only which are inflamed, in order that the remainder of the mucous membrane should not be too much irritated.

Papular Conjunctivitis.

The nitrate of silver collyrium does not always prove sufficient to effect the cure of papular conjunctivitis. When this remedy does not succeed, the best plan we can adopt is that of cauterizing lightly the papulæ with the solid nitrate. As soon as this has been done, it is advisable to drop a little cold water over the cauterized spot, with the view of preventing the parts of the conjunctiva you wish to preserve intact from being injured. During the two or three days which follow this slight operation, the symptoms are exacerbated, the intensity of the inflammation being apparently much increased. You have already seen that this is generally the case, even when the solution is employed. The patient, however, soon begins to feel better, the inflammation diminishes, and, when the papulæ have been cauterized a time or two, entirely disappears. This form of conjunctivitis is much more obstinate than those we have already examined: this is a fact you ought always to bear in mind.

Granular Conjunctivitis.

After what I have said respecting the seat and the symptoms of granular conjunctivitis, you will not be surprised to find that it is the form of conjunctivitis which usually proves the most rebellious to therapeutical agents. The disease is not, however, incurable, a well-directed

treatment, continued with perseverance, being generally successful; more frequently, indeed, than in granular blepharitis. The treatment of this affection is exactly the same as that of granular blepharitis. I shall, therefore, to avoid repetition, refer you to what I stated in a former lecture, with regard to the treatment of this malady.

These are the considerations I have to offer you respecting the treatment of the various forms of conjunctivitis we have already examined. I shall now proceed to describe the purulent forms of inflammation.

Purulent Conjunctivitis.

All the morbid affections described by authors under the name of purulent ophthalmia may be reduced, as regards their primitive seat, to two principal classes:—

1st. Purulent blepharitis; that is, purulent blepharitis of new-born children, or purulent blepharitis of adults.

2d. Purulent conjunctivitis.

I have already stated my reasons for making this division; it would therefore be useless to repeat what I have said.

Purulent conjunctivitis is generally admitted to be contagious. The facts which can be adduced to support this opinion are so numerous, I scarcely consider it necessary to discuss the question; there can, indeed, be no doubt on the subject. The disease seems often to rage as an epidemic; and there are, perhaps, few countries where, at one period or another, it has not exercised its ravages. There are, consequently, many interesting treatises on this malady to be met with, nearly each epidemic having had its historian. Were you to form an opinion from the mere perusal of these treatises, you would admit numerous forms of purulent conjunctivitis. I am, however, inclined to think that the authors of these monographs, led astray, in some degree, by a minute appreciation of peculiar symptoms, perhaps also influenced by the charm of novelty, have considered the disease they had observed as a new affection, although, in reality, it had no claim to such a distinction. If we examine with care, and without any prevention, the descriptions they give, we cannot but acknowledge that there exists the greatest analogy between the various epidemics; an analogy which warrants my considering them as mere modifications of two principal forms of disease. The forms to which I allude, are—

1. Gonorrhœal conjunctivitis.
2. The purulent conjunctivitis of Egypt.

I do not intend to examine separately the numerous epidemics which have been witnessed and described in our own and other countries; we have not time to devote to such a study. If any of you, however, doubt the correctness of these remarks, I would request you to draw a parallel between the different descriptions; you would then see immediately that these affections are, in reality, nearly identical. If you listen attentively to what I am about to say, you will, I think, be able to form a correct opinion respecting purulent ophthalmia.

Gonorrhœal Conjunctivitis.

Although numerous researches have been made to ascertain the nature of this affection, practitioners are far from agreeing with regard to its original mode of production.

Some look upon the disease as the result of a metastasis of the urethral affection to the mucous membrane of the eye; others attribute it to gonorrhœal matter being, by some means or other, brought in contact with the conjunctiva; some, again, attribute it to a general syphilitical infection of the system. Each of these opinions numbers many partisans, who bring forward numerous facts and arguments to defend their theoretical views. Indeed, any one of these opinions might be adopted, without any offence to reason, to the exclusion of the other two. Whatever may be the manner in which gonorrhœal conjunctivitis originates, no one in the present day can doubt its syphilitic nature; the facts which establish this point are too numerous to be denied, and this is quite sufficient to guide us in practice. We will now proceed to describe the symptoms by which the malady may be recognized.

One of the most striking features of this disease is the extreme rapidity with which it progresses. The rapidity is, indeed, so great in some cases, that it becomes impossible to follow the march of the complaint through its different periods. The eye may be lost in less than four-and-twenty hours, and that without its being possible for the surgeon to arrest the progress of the malady. This is not, however, always the case; the march of the disease may be sufficiently slow to enable us to study it in its different stages. These are the cases I shall take as models in the description I am about to give you. In either form, however, the affection is a most serious one, and one in which the surgeon must not temporize, but act at once, and with energy.

When gonorrhœal inflammation of the conjunctiva is moderate, the following are the symptoms which we observe:—The conjunctiva, at first of an uniform red cinnabar colour, soon becomes of a darker hue, and assumes a tinge similar to that

of wine-lees. The injected vessels are no longer to be distinguished from one another, and the tissue itself of the membrane, as well as the cellular layers separating it from the sclerotica, becomes gorged with blood and tumefied. The free surface of the conjunctiva, at first smooth and polished, soon assumes a velvety appearance, and presents a great number of granulations, the volume of which varies from the size of a millet seed to that of a large pea. This tumefaction of the conjunctica gradually increasing, soon gives rise to chemosis with all the concomitant symptoms.

The tissues which enter into the formation of the palpebræ are generally more or less inflamed. The eyelids become much swollen, and the cutaneous surface is red and hot, the patient complaining at the same time of burning pain in this region. Sometimes the tumefaction of the upper eyelid is so considerable as to partly cover the lower one. Sometimes, on the contrary, there is ectropion, and then the velvety appearance of the globe of the eye is perfectly visible; the eye presenting a fungous, granular surface, in the centre of which we see the cornea, more or less concealed by the tumefaction of the conjunctiva. The most important character, however, the character which may be considered pathognomonic of this form of ophthalmia, is to be found in the thick greenish-yellow purulent mucus, which is continually discharged from the eye—mucus which may be compared in every respect to the discharge we meet with in gonorrhœa. If the eyelids are separated, the purulent fluid which is retained between the eye and the palpebræ by the tumefied state of these organs, flows in a stream over the face. In this affection, as in those we have already examined, the visual functions are not disordered unless the swelling be so great as more or less to conceal the pupil, and thus diminish the field of vision. The deep-seated pain felt by the patient must be attributed to the compression exercised on the globe of the eye by the inflamed and tumefied tissues.

These symptoms, if borne in mind, will always enable you to recognize gonorrhœal conjunctivitis. You must not, however, think that this affection is always met with as I have just described it, that is, in the simple inflammatory form, without complication. Unfortunately, the inflammation is seldom confined to the conjunctiva. In many instances it attacks the cornea, and it is to this complication I particularly wish to draw your attention. It is not always in our power to prevent the inflammation extending to the cornea, which is then often destroyed in the course of a few hours, although previously perfectly healthy and transparent. In some cases, nevertheless, we are able to follow the progress of the disease after it has reached the cornea. When this is the case, we find that the symptoms are developed with extraordinary rapidity. The cornea loses its transparency and becomes of a whitish grey colour. Vision is also necessarily impaired, the patient complaining of a mist which obstructs the sight. The tissue of the cornea seems infiltrated with an opaque fluid; a kind of pultaceous matter covers the free surface, from which it is easily separated. Very soon, pus takes the place of the pultaceous matter, and an ulceration is seen, with perpendicular edges of variable size. This ulceration growing deeper and deeper, the cornea is at last entirely perforated, and the humours of the eye evacuated. The iris then becomes engaged in the perforation of the cornea; and the interior of the eye, which is the seat of intense inflammation, suppurates profusely.

I have often remarked in gonorrhœal conjunctivitis, that when the secretion of mucus is considerable, of a purulent nature, and by its acrid properties gives rise to slight inflammation of the skin over which it passes, the cornea remains perfectly sound; whereas, if the secretion is less abundant, of a whitish colour, of a creamy consistance, and does not irritate the skin, we often find that the cornea is perforated in the manner I described. This circumstance has also been noticed by other practitioners. You must not, however, look upon this as a general law; were you to do so you might often be led to entertain false hopes with regard to the termination of the disease.

Gonorrhœal conjunctivitis does not always terminate thus unfavourably. An energetic well-directed treatment will sometimes destroy the inflammation at the onset, and the cure may be thus completed by the local treatment I shall presently describe.

In the most favourable cases, when the disease terminates by resolution, the secretion of mucus becomes every day less thick and less abundant. The tumefaction also diminishes, and by degrees every tissue returns to its normal state. The resolution is, however, seldom complete, the conjunctiva retaining more or less of its vascular appearance, and the mucous follicles remaining voluminous and indurated. A glutinous, half-purulent matter continues to be secreted. When the eye is in this state the slightest cause will bring back the acute form of inflammation. The surgeon should, therefore, use every endeavour to subdue the inflammation which still exists in this, the subacute form.

Sometimes, after gonorrhœal conjunctivitis, the cornea presents opacities which interfere more or less with vision, according to their extent, and according to the part of the cornea they occupy. I merely allude now to these lesions of the cornea, as I shall speak of them at length when treating of keratitis.

Treatment of Gonorrhœal Conjunctivitis.

If all I have said respecting this malady has been well understood, you must, in some measure, be already aware of the nature of the treatment which ought to be pursued. At the very commencement of the disease, as soon as he is aware of its presence, the practitioner must attack it with energy. The least delay on his part, or the inefficacy of the agents he employs, is generally attended with fatal consequences to the organ affected. When the disease is a little farther advanced it is too late, the most powerful measures are then nearly always unable to arrest the rapid strides of the malady.

Purulent conjunctivitis is undoubtedly the form of ophthalmia which most imperiously requires general treatment. You must, therefore, at once have recourse to blood-letting, general and local. The practice of bleeding *coup sur coup*, to syncope, is often attended with very beneficial effects. I have several times resorted to this mode of treatment, and that with success; the intensity of the inflammation being, indeed, such as to warrant the most energetic measures. When, by copious and repeated bleeding, you have diminished the volume of the circulating fluid, you must endeavour, by the depletion of the inflamed tissues, to act more directly on the malady. The means by which this may be accomplished are various. Some recommend leeches applied round the orbit, on the mastoid region; others, the opening of temporal artery, or the scarification of the conjunctiva. Arteriotomy does not certainly deserve the praise which has been given to it by some. When other means fail to arrest the progress of the inflammation, I should not expect greater success from such an operation. As, however, it is a plan I have not very often tried, I will not speak very decidedly on the subject.

Excision of a portion of the conjunctiva, which has been recently extolled by M. Sanson, is often attended with serious consequences; we ought, therefore, to be careful how we make use of such a remedy. I should myself prefer repeated applications of leeches on the conjunctiva. By adopting this plan the end proposed is attained, and the disagreeable consequences which may follow the excision are avoided.

When you have subdued the inflammation by general and local depletion, to complete the cure you must have recourse to another plan of treatment. The measures to which I have just alluded are, it is true, indispensable, in the great majority of cases. Nevertheless alone, without the assistance of local applications, they would not restore the inflamed tissues to their normal state. Before I speak of topical remedies, however, I must say a few words respecting a special mode of treatment which has been proposed by some practitioners.

Reasoning on the supposed gonorrhœal nature of the malady, they consider it advisable to recall the discharge from the urethra; this is to be effected by various means. Some propose introducing into the urinary canal a bougie impregnated with gonorrhœal matter proceeding from another individual, or from the inflamed eye. Others assert that the presence alone of a bougie is sufficient to give rise to the discharge. There are, it is true, facts which tend to prove that on producing inflammation of the urethra, the intensity of the ocular inflammation has been diminished; but I must observe to you, that this plan of treatment can only be indicated when the gonorrhœal conjunctivitis is metastatic, that is, when it has occurred immediately after the decrease or the suppression of the urethral discharge. Again, prudence will scarcely, in my opinion, allow us to attack a disease so rapid in its progress by a treatment the action of which is comparatively slow.

The same theoretical views have induced some surgeons to employ the internal remedies which are used in gonorrhœa. The objections I have just made may be repeated here. The action of these medicinal agents is too slow for it to be prudent to employ them in the first or acute period of the disease; when the inflammation has in a great measure subsided, and then only, advantage may be derived from this method of treatment. In cases of subacute inflammation, I have myself found cubebs and the balsam of capivi, given in large doses, extremely beneficial.

The treatment I shall definitively recommend to you may be resumed in a few words. Copious bleeding should be resorted to during the first period of the disease, until the inflammatory symptoms are entirely subdued. Astringent collyria may then be applied to the inflamed parts, and a revulsive action set up in the intestinal canal. When the disease is to be attributed to metastasis, one of the methods I have described may be employed, with the view of recalling the urethral discharge.

By thus uniting general and local treat-

ment, I have succeeded in all the cases I have treated, when the cornea was not already affected at the time they came under my care.

When the inflammatory symptoms have abated, the disease may yet prove more or less rebellious to the remedies you employ; you need not, however, entertain any fear respecting the sight of the patient. In many cases granulations of variable size remain on the conjunctiva, and resist the action of all astringent collyria, none of which seem sufficiently energetic to destroy them. Recourse must then be had to cauterization with the solid nitrate of silver; and should it likewise fail, to excision of the granulated portion of the conjunctiva. I would, however, advise you only to adopt this last plan of treatment when all other means have failed, as excision of a portion of the conjunctiva is sometimes attended with very unfortunate results.

The Egyptian Purulent Conjunctivitis.

On comparing the published descriptions of the epidemics of purulent ophthalmia which have been observed in various countries, I have found so much analogy between them and the Egyptian form of purulent inflammation, that I do not hesitate to describe them under the same head. If these descriptions are faithful, as, indeed, I am inclined to believe they are, the morbid symptoms are nearly always the same, as also the treatment. I cannot, therefore, see any really valid reason for treating separately of each of these affections. It appears, however, that the Belgian epidemic presents some symptoms which have not been noticed in other epidemics of the same nature. Thus it has been asserted that granulations are to be met with on the conjunctiva, and that these granulations have not been observed before in purulent conjunctivitis. Is it, however, certain that granulations did not exist in the Egyptian ophthalmia? Is it certain that they were not then overlooked by our surgeons, who do not, it is true, mention their presence? This is a question which deserves to be investigated; I myself am inclined to think that they exist in all cases of purulent conjunctivitis. We will now examine what are the characters of this disease, and you will then, I hope, have a clear idea of the various purulent forms of inflammation.

The contagious or non-contagious nature of the Egyptian purulent form of inflammation has been the subject of much discussion. Most persons now agree in considering it to be contagious; and this opinion, which is substantiated by numerous well-authenticated facts, has not been shaken by the experiments performed on himself by Mackely, and quoted by Mackenzie in his treatise on Diseases of the Eye, page 184.

The etiology of this affection is extremely obscure. In Egypt, the reflection from the sand, the nature of the climate, &c. are quite sufficient to account for its presence. When, however, we find it appearing on the transports between Leghorn and Egypt—when we see it exercising its ravages in other countries, in England, in Belgium, and that with the same violence as in the country where it was first observed—we can no longer attribute its existence to these causes alone. If we admit the contagious nature of the malady, we can easily account for its attacking troops on their passage to Egypt; it is not, however, equally easy to prove that the epidemics, to which I have alluded, have been imported from that country, as some writers have asserted.

Other reasons have been given to account for the appearance of the disease. Thus the Belgium epidemic is attributed by M. Vleminckx to the soldiers wearing *schakos*, which are too heavy, to their washing their heads with cold water, and to the collar, which forms part of their uniform, being too tight, and consequently compressing the neck. These causes are not, most certainly, worthy of the attention they have met with. How is it, indeed, that the malady has only existed in the Belgian army for the last six or seven years, if its existence is to be explained by causes which have always been in action? M. Vanhonsbrooch is not much more rational in his attempt to explain the origin of the epidemic, when he attributes it to the irritating action on the eyes of the subcarbonate of lime which is used by the soldiers in cleaning their buffletery. Would is not be better to acknowledge at once, that in this instance, as in many others, we are unacquainted with the primary cause of the disease?

This form of purulent inflammation is similar, in many respects, to gonorrhœal conjunctivitis. It presents the same rapidity in the appearance of the symptoms, the same intensity, and is followed by nearly the same consequences. In the disease we are examining, however, the inflammation generally attacks both eyes at once, although, in some instances, one of them is affected some time before the other. In gonorrhœal conjunctivitis, on the contrary, generally speaking, one eye only is the seat of disease. When the progress of the malady is not too rapid to allow us to observe the various symptoms, we find they manifest themselves in the following order:—

The patient complains at first of intense itching in the eye: this symptom generally makes its appearance in the evening. The itching is soon followed by the peculiar sensation of which we have so often spoken—that of extraneous bodies placed between the eye and the mucous surface of the palpebræ. The conjunctiva at the same time becomes inflamed; its tissue, as also the cellular lamellæ on the internal surface, are gorged with fluid, and tumefied. The vascularization of the conjunctiva is from the commencement extremely well defined; the size of the caruncula lacrymalis is much increased. The parts thus tumefied are soft, rather elastic, and bleed easily. This is not, however, an unfavourable circumstance, as the slight hæmorrhage which is thus produced tends to diminish the swelling. Four-and-twenty hours after the appearance of the above symptoms, a slightly viscid and opaque mucus is secreted, and the inflammation then extends to the entire internal surface of the palpebræ. This mucus soon assumes a thick, yellowish, purulent appearance. The eyelids become very much tumefied, especially the upper eyelid, which often covers nearly entirely the lower one. When they are separated, a considerable quantity of the purulent secretion escapes from the eye, and, flowing over the face, excoriates the skin wherever it passes. The ocular conjunctiva may become of a fungous nature, and be swollen to such an extent as to separate the free edges of the eyelids, and protrude from between them. When this is the case, the conjunctiva being irritated by the contact of the air, the secretion is extremely abundant. It may, indeed, according to Dr. Vetch, amount to several ounces daily.

Such are the principal symptoms of the Egyptian purulent conjunctivitis. Unfortunately this disease terminates, in most cases, by the extension of the inflammation to the cornea, and the total loss of the eye. As we have examined this complication, when speaking of gonorrhœal conjunctivitis, I shall refer you to what I then said on the subject.

Besides the local symptoms which I have just described, there are also general symptoms, which must not be omitted. The pulse is small, sometimes hard; generally, however, it remains soft. The skin is is hot; the appetite nearly always remains good. Should the disease continue for several months, the patient generally falls a victim to diarrhœa, dysentery, and marasmus.

I shall not enter into any details respecting the treatment of this disease. It is in every respect similar to that of gonorrhœal conjunctivitis, with which we are already acquainted; with the exception, however, of those indications which are founded on the gonorrhœal nature of the disease.

CLINICAL REPORTS OF DIFFICULT CASES IN MIDWIFERY.

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[Continued from p. 717.]

THIRD REPORT.

Cases of retained Placenta.

The following report contains the histories of seven fatal cases of retained placenta, and thirteen in which more or less difficulty and danger were produced from portions of the placenta, or the entire mass, being left within the uterus beyond the usual period. The best method of preventing the occurrence of similar accidents, is to apply the binder immediately after the birth of the child; to make pressure with the hand over the fundus uteri at short intervals; and slight traction upon the cord downward and backward, in the direction of the hollow of the sacrum. By these means the upper part of the uterus usually goes on contracting till the placenta is detached and pressed down through the os uteri into the vagina. In all cases, whatever the cause of the retention may be, if the placenta at the end of an hour is not detached from the uterus and expelled, it should be withdrawn artificially, by passing the hand along the cord to its insertion, expanding the fingers and grasping the whole mass, or as much as can be seized and brought away. The difficulty of removing portions of placenta adhering with more than the natural firmness to the uterus is only increased by delay.

Case XLVIII.—A woman who was delivered in the British Lying-in Hospital, in the month of March, 1829, was seized soon after with pain in the region of the uterus, quickness of the pulse, and respiration; and the skin assumed a peculiar dusky hue, and severe pains were experienced in some of the principal joints of the body. She died on the 26th day after her confine-

ment; and on inspecting the body, with Dr. H. Davies and Mr. Armstrong, we found a small portion of placenta adhering to the uterus, near the fundus, and the veins of the part distended with pus. The cartilages of the right knee-joint, which had become tender and swollen for some time before death, were seen ulcerated.

Case XLIX.—A patient of a public institution was delivered on the 30th of August, 1831, and a large portion of the placenta was left within the uterus. I saw her on the third day after delivery, when there was fœtid dark-coloured discharge from the vagina. The pulse was feeble, the countenance haggard, and there was constant vomiting and delirium. The orifice of the uterus was so firmly contracted, that two fingers could not be introduced within it, and the placenta felt. Thirty grains of ergot of rye were administered, but it only increased the vomiting and general distress. Another dose was given soon after, but without any good effect; and, on the evening of the fifth day after delivery, death took place, with all the symptoms usually observed when a putrid animal poison is introduced into the system. I inspected the body, and found a large portion of the placenta and membranes within the uterus in a black putrid state, and emitting a most offensive odour. All the coats and vessels of the uterus were apparently healthy. The placenta did not appear to adhere with more than the usual firmness to the inner surface of the uterus.

As there did not exist any morbid adhesion of the placenta to the uterus in this case, no portion of it would probably have been left within the uterus had the hand been introduced into its cavity within an hour after the delivery of the child, and before the cervix had contracted.

Case L.—On the 18th June, 1834, with Dr. H. Davies, I examined the body of a woman who died eighteen days after delivery, from a portion of the placenta being retained and undergoing decomposition within the uterus. The orifice of the uterus contracted so much after the birth of the child, that the medical attendant found it impossible to remove the whole placenta. For five days she appeared to recover favourably; then the pulse rose to 120, and there were rigors, loaded tongue, sickness at stomach, and diarrhœa, with slight occasional cough and hurried breathing. She became more and more feeble, and died without any suspicion being entertained of the existence of disease of the lungs.

I removed the uterus and vagina, and, on laying open the latter, a portion of placenta in a sloughy state, like a piece of putrid flesh, was seen hanging through the os uteri, and filling the whole of the upper part of the vagina. The uterus was then laid open, and the placenta was found filling its cavity and loosely adherent to the fundus by the decidua. There was no morbid adhesion of the placenta to the uterus, as they were separated without any force. The portion of placenta within the uterus had undergone a slight degree of decomposition compared to that which hung through the orifice. There was a great quantity of pus in the veins of the uterus, and the lining membrane of the organ and muscular coat, where the placenta adhered, were soft, and as black as ink. The pleura on the right side was extensively inflamed. The right inferior lobe was hepatized, and there were several deposits of pus in the substance of this portion of the lungs. At one point, the pleura appeared to be destroyed by sloughing or gangrene.

Case LI. — On the 23d October, 1835, the body of a woman was brought into the St. Marylebone Infirmary, who had died from retention of a portion of the placenta, which adhered with unusual firmness to the inner surface of the uterus. She was delivered on the 11th October, and a most alarming hæmorrhage took place soon after the birth of the child. Several unsuccessful attempts were made by the medical practitioner to extract the placenta, and it was uncertain at the time whether the whole had been removed from the uterus. A serious affection of the brain took place, and she died about ten days after delivery. The late Dr. Sims examined the body, and found the superior longitudinal sinus of the brain filled throughout a great part of its extent by a solid coagulum of fibrin, and all the veins on the right side, which

empty themselves into it, distended with fibrin. The veins on the left side were in the same condition, but to a less extent.

There was no trace of inflammation about the uterus; all its vessels were healthy.

On laying open its cavity, there was seen adhering to its fundus a portion of placenta, as large as a middle-sized orange. On examining more carefully the connection between the uterus and placenta, it appeared that they were united more firmly than natural at one part, which did not exceed an inch in diameter. So firm was the union in this case, that the substance of the placenta would have been more easily torn than the adhesion between it and the uterus. The portion of placenta thus adhering to the uterus, was harder than natural, and of a yellow colour.

Case LII. — On the 14th of August, 1838, Dr. Hall, of Kennington, shewed me a uterus, with a portion of placenta, about two inches in diameter, firmly adhering to the upper part of its body. The placenta and uterus were so closely joined together that they seemed one substance; it was almost impossible to see the line running between them. Yet the placenta could be separated from the inner membrane of the uterus without much force being applied, or any laceration produced. In this instance the uterus might have been suspended by the placenta, without a separation between them having been produced.

The patient from whom this specimen of adherent placenta was removed, resided near Denmark Hill, and was attended in her labour by Mr. Cooke. The cervix uteri contracted so firmly soon after the expulsion of the head of the child, that Mr. Cooke was obliged to employ much force before he could extract the shoulders. No hæmorrhage followed the birth of the child. The os uteri closed so completely afterwards in a few minutes, that all attempts to remove the placenta were unsuccessful, and the umbilical cord was lacerated. Dr. Hall saw the patient some hours after, and as he could not succeed in getting more than one finger into the uterus, he gave up all attempts to extract it, and it remained for several days in the uterus without any unfavourable symptoms taking place. A fœtid discharge then began to escape from the vagina, and symptoms of peritonitis supervened. Seven or eight days after delivery another attempt was made to extract the placenta, and a portion of it was removed. A hook was introduced into the uterus, but it brought away nothing. The patient at last died with the usual symptoms of peritonitis.

Case LIII.—On the 20th October, 1832, I was called to a patient, in a public institution, who had been delivered about two hours before, of a living child, at the full period, by the natural efforts. The placenta not being expelled in the usual time after, and hæmorrhage occurring, the hand was introduced into the uterus, and the cord was torn without any part of the placenta being brought away. The difficulty was believed to arise from hour-glass contraction of the uterus, and a large dose of laudanum was given. I found a portion of the placenta in the vagina, and the neck of the uterus firmly contracted around the remainder. Two fingers were gently insinuated through the os uteri, and the whole placenta was readily extracted. No hæmorrhage followed.

On the ninth day after delivery the pulse was very quick and feeble. The region of the uterus was slightly tender on pressure, and there was dyspnœa, with pain in the left side of the chest. The symptoms gradually increased, and she died a few days after. The upper lobe of the right lung was covered with a thick layer of false membrane, and hepatized; and there was a considerable quantity of fluid effused into both sacs of the pleura.

There was a considerable curvature in the upper part of the spine.

Case LIV.—On the 4th May, 1839, a surgeon requested me to see a patient who had been delivered the day before, after a lingering labour, of a dead child. The funis was broken with the slightest touch, and the placenta could not be removed. There had been no hæmorrhage, but a great disposition to syncope. When I saw the patient, twenty-two hours after, the pulse was rapid, the discharge from the vagina was very offensive, and the neck of the uterus contracted, but not firmly. One

finger was passed after another, until the whole hand entered the cavity of the uterus. The placenta was felt adhering throughout to the uterus, and was separated with difficulty from it. Even after the mass had been grasped by the hand and detached, a small portion still adhered so firmly that it could not be removed, and was left behind. The hand was re-introduced, and as much of it taken away as was possible. No hæmorrhage, but great faintness followed. For a time she appeared to recover, but the pulse continued unusually rapid and feeble, and towards the end of May the lower extremities swelled; she became delirious, and had the usual symptoms of inflammation of the veins of the uterus.

She died, and all the femoral and pelvic veins were found plugged up with coagula. The uterus was twice its natural size and flabby. No portion of placenta was found within the uterus.

Case LV.—On the 7th July, 1838, I was requested by a medical friend to see a lady who had been delivered of her sixteenth child on the 28th June. He had attended this lady in seven labours, which were all natural. On this occasion hæmorrhage took place soon after the expulsion of the child; and though the orifice of the uterus was not contracted, the placenta could not be brought away without considerable difficulty after the introduction of the hand, and had a lacerated appearance when extracted, and looked as if a portion had been left within the uterus.

On July 7th, the pulse was 120; great giddiness, and beating of the temples. The tongue was not much loaded, and the appetite continued, and there was no tenderness of the hypogastrium. There was a most offensive dark-coloured discharge from the vagina. The os uteri so open that a finger could be introduced, and a portion of placenta felt within, but it was impossible to take it away with the finger, and we did not consider it safe to employ any other instrument for the purpose.

Injections of tepid water, with a weak solution of chloride of soda, were frequently employed, and occasional cathartics, with quinine, wine, and nourishing diet. This plan was continued for several days, when the retained portion of placenta was expelled, and she speedily recovered.

Case LVI.—On Saturday, 28th September, 1838, I was called to a patient, ætat. 23, residing near the Edgeware Road, who had been delivered of her second child on the preceding Thursday evening, and the greater part of the placenta had been left within the uterus. Repeated attempts had been made by the medical attendant to extract it, but they were unsuccessful. A dark-coloured offensive discharge was flowing from the vagina. The pulse was rapid; tongue loaded; nausea, and great headache, and restlessness. I found a portion of the placenta protruding through the os uteri, and had little difficulty in drawing the whole of it into the vagina with the fore and middle finders of the right hand. Tepid injections of milk and water were recommended.

30th.—Discharge diminished in quantity, and without the peculiarly offensive odour. Pulse less frequent; nausea, and inquietude, and headache gone. Repeated doses of the ergot of rye had been given without any effect upon the uterus.

Case LVII.—28th July, 1838. At ten o'clock at night I was called by a surgeon to extract a placenta which had been retained eighteen hours after the birth of the child. The cord was torn off in attempting to remove the placenta. No hæmorrhage had taken place. I found the cervix uteri so closely contracted, that one finger only could at first be introduced, and it appeared very improbable that the hand could ever be passed into the cavity so as to grasp the placenta. By cautiously pressing one finger after another through the orifice, the resistance was, in the course of an hour, so much overcome, that I could feel a considerable portion of the placenta, though the whole hand had not passed through the cervix. By pressing backward with the fingers the portion of placenta within reach, I at last succeeded in removing the whole mass. No bad symptom followed. It was the first labour.

Case LVIII.—On the 4th January, 1828, I was called to a case near Covent Garden, in which the placenta had not been expelled in the usual period after the birth of the child. Hæmorrhage taking place, the medical attendant passed

up his hand into the uterus to extract it, but found it impossible to reach the fundus uteri in consequence of the upper part of the cervix being firmly contracted. He pulled with some force upon the funis, and it soon broke off, near its insertion into the placenta. He then administered a dose of laudanum, and left an assistant with the patient to make firm pressure over the fundus uteri. I saw the patient soon after this; and the neck of the uterus being relaxed, I experienced no difficulty in removing it, as it was lying detached in the lower part of the uterus.

Case LIX.—On the 22d September, 1828, I was called by the assistant-matron of the British Lying-in Hospital to a patient near Drury Lane, to extract the placenta, which had been retained four hours after the expulsion of the child. The cord and a portion of the placenta had come away in the efforts which were made to withdraw it. I found the vagina filled with clots of blood, and the neck of the uterus closely contracted. I had some difficulty in passing two fingers into the cavity of the uterus and gradually pressing the placenta down into the vagina. No hæmorrhage followed, and the recovery was favourable.

The whole hand could not possibly have been passed into the uterus, nor was it necessary.

Case LX.—On the 4th January, 1828, I was called to a patient of the Westminster General Dispensary, residing in Whitcomb Street, with retention of the placenta, who had been delivered of a dead child three hours before, at the $7\frac{1}{2}$ month. The vagina and cervix uteri were very rigid and undilatable, but the resistance they gave was gradually overcome, so that I succeeded in introducing two fingers and the thumb of the right hand through the cervix, and with these extracted the placenta, which was lying loose in the cavity of the uterus. The whole hand could not have been passed through the cervix uteri in this case. No bad symptom followed.

Case LXI.—On the 22d April, 1835, a woman who was delivered at the full period, in the lying-in ward of the St. Marylebone Infirmary, had retention of the placenta from the cervix uteri contracting very quickly and firmly after the expulsion of the child. The cord was torn away at its insertion into the placenta. Although not more than four hours had elapsed from the birth of the child when I saw the patient, the orifice of the uterus was so firmly closed that I found it impossible to pass the whole hand, and I succeeded after a time in extracting the mass with two fingers. She recovered in the most favourable manner.

Case LXII.—On the 26th July, 1835, I was called to a case in Charlotte Street, Portland Place, where the cord had been torn off, and the whole placenta had been left within the uterus from four o'clock in the morning till three in the afternoon. A profuse hæmorrhage had occurred. Frequent attempts had been made to remove the placenta, but they were unsuccessful. I passed the whole hand in a conical form slowly through the os uteri, and soon grasped the mass of the placenta and withdrew it.

Three drachms of the ergot of rye had been given to this patient during her labour.

Case LXIII.—On the 22d August, 1835, I was called to another case of hæmorrhage and retained placenta, in Hedden Street, where the cord had been torn away. As a short period had elapsed in this case from the birth of the child, no difficulty was experienced in passing the hand and extracting the whole placenta. The flooding immediately ceased, and no bad symptom followed.

Case LXIV.—Mrs. C——, residing at 3, Stacy Street, was delivered at nine A.M., on the 4th March, 1829, of a child at the $6\frac{1}{2}$ month. The umbilical cord being soft, was broken by the midwife in attempting to draw out the placenta. I saw the patient four hours after, when the parts had become so contracted that I could not introduce the hand without employing more force than was proper. The placenta was therefore obliged to be left within the uterus. The following morning a brisk cathartic was exhibited, and in the evening the whole placenta came away without any help whatever. No bad symptoms followed.

Case LXV.—At ten A.M., August 13th, 1836, I was called to a married woman, residing in Dean Street, who

had been delivered of a dead child, at the full period, thirty-four hours before. The medical attendant had given several doses of the ergot of rye, and had made repeated efforts to extract the placenta, but without success. I found the os uteri closed, but not firmly. The discharge from the vagina was extremely fœtid, which made me determine, if possible, to extract the placenta. The orifice of the uterus gradually yielded to the introduction of three fingers, with which I laid hold of the mass and withdrew it, without passing the whole hand within the uterus. The recovery was very favourable.

Case LXVI.—On the 29th August, 1835, I was requested by Mr. Johnson, of Mortimer Street, to see a lady with retained placenta, who had expelled a dead fœtus, of six months, twenty-four hours before. Two drachms of the ergot of rye had been given to produce uterine contractions, but they had had no effect. I found the orifice of the uterus open, the margin thin, and the point of the finger readily touched a portion of hard placenta within the cavity. Two fingers were introduced, and the placenta seized; but it could not be made to descend into the vagina, and I was forced to leave it in the uterus. A cathartic draught was administered the following morning, which produced vomiting and purging, and during its operation the whole placenta was expelled in a yellow indurated state. No bad symptoms followed.

Case LXVIII.—*Retention of the Placenta by a peculiar band or septum in the vagina.*

Oct. 10th, 1838.—Mrs. B——, æt. 20, No. 20, Great Chapel Street, was delivered of a dead child, at the end of the seventh month, three hours before I saw her. The placenta was soon after expelled from the uterus into the vagina; but though the cord was pulled forward as strongly as its strength would admit, by Mr. Babington, who was in attendance, the placenta could not make its escape from the orifice of the vagina. The difficulty was found to depend on the presence of a broad smooth band or septum, passing across the vagina, from the anterior to the posterior wall. One half of the placenta was pressed down on the left side of this band, out of the vagina; and the other half, with the umbilical cord, on the right side. With a pair of scissors I divided the placenta into two portions, on the left side of the band, and it immediately after came away; and the septum, which had been greatly stretched and drawn forward, went up into the vagina.

On the 15th, I examined the vagina carefully with Mr. Babington, and we found it, near the orifice, divided into two canals, by a broad smooth band passing from the anterior to the posterior surface. It was perfectly smooth; and the parts of the vagina into which it was inserted were neither hard nor irregular, as they are found to be where cicatrices are formed after inflammation and sloughing of the vagina.

I considered this as resulting from an original malformation, and probably an instance of imperfectly formed double vagina.

She had been previously delivered twice without any difficulty; and since her last confinement there had been no inflammation of the parts. She stated, that from the first she had invariably experienced great pain during intercourse.

CLINICAL OBSERVATIONS
ON
THE USE OF THE AIR-DOUCHE IN THE DIAGNOSIS AND TREATMENT
OF
DISEASES OF THE EAR.

By T. Wharton Jones, Esq.

[*For the London Medical Gazette.*]

No. III.

Case III.—*Chronic Inflammation of the Lining Membrane of the Tympanic Cavities, with accumulation of Mucus—No obstruction of the Eustachian tubes—Auditory passages natural.*

27th Jan. 1839.—The subject of this case was sent by Mr. Quain, of University College, with the following note:—

"My dear Sir,—Mr. E. F., the bearer of this, has been more or less deaf for a considerable time, and, from a short examination, I am inclined to think the Eustachian tubes at fault.

I shall be much obliged if you will be so good as to examine him and give

me your opinion. The tendency of my own opinion is, that the local means—catheterism, &c.—may be beneficial; yet, judging from his appearance, the diathesis, so to say, it is probable they will not alone be of any great utility.

* * * I am, &c.

R. QUAIN."

Mr. E. F. is 19 years of age; had scarlet fever when he was six; after that the deafness came on. Is subject to attacks of ear-ache. His sister was born quite deaf, but after having scarlet fever she *acquired* hearing!

Skin coarse, with the sebaceous follicles of the face much developed; habitually costive. The climate in which he usually resides is very moist.

In September and October 1836, was treated in Paris, by M. Deleau, who applied the air-douche about fourteen times, but only with temporary benefit. Took iodine last summer, according to the prescription of Dr. Elliotson. During the last autumn, hearing improved of itself considerably, but has been diminishing since he came to London. It is now—left ear, 3 inches; right ear, 5 inches.

Left membrana tympani and handle of the malleus appear natural; the right also. The skin of the auditory passages slightly red and tender. The secretion of wax natural.

Applied the air-douche to both ears, as an exploratory means. On the left side the air entered freely, but with great gurgling; on the right side not so freely, and with less gurgling.

After the air-douche, the hearing distance of the left ear was nine inches, of the right ear seven inches. The hearing was further raised on both sides to one foot, by making forced expirations with the nose and mouth closed.

Tuesday, 29th Jan.—In consultation with Mr. Quain, and Mr. Gasquet of Burton Crescent. Hearing distance to day—on the left side, eight inches; on the right side, one foot.

After the application of the air-douche, the hearing distance on the left side was raised to one foot four inches, on the right side to one foot and a quarter.

To continue the treatment with the air-douche, and endeavour to improve the state of the constitution by attention to diet and regimen. To resume the use of the iodine.

Wednesday, 30th.—Left ear, one foot one inch; right ear, one foot and three quarters. Some pain in the right ear last night, and still some tenderness.

Applied the air douche to the left ear only: the air entered freely.

After the air-douche the hearing distance of the left ear was one foot and three quarters; that of the right ear, although not treated, was found increased also—from one foot and three quarters to two feet four inches and a half.

After some minutes, and after having forced air into the tympanum by attempting to expire with the nose and mouth closed, the hearing distance on the left side was raised to three feet, and on the right side to three feet and a quarter.

Thursday, 31st.—Left ear, from two feet to two feet and a half; right ear, three feet. After forcing air into the middle ear, by attempting to expire forcibly with the nose and mouth closed, the hearing distance of the left ear rose to three feet and a half, and that of the right ear fell to two feet and a half.

Applied the air-douche to the right side only. The hearing distance was diminished immediately after, but in the course of a few minutes it was found risen again to three feet.

Tuesday, 5th Feb.—Right ear, two feet and a half, at first trial, but after forcing air into the Eustachian tube, by attempting to expire with the nose and mouth closed, the hearing distance was found raised to four feet.

Left ear, one foot ten inches at first trial; three feet one inch and a half after the forced expiration. Some cold in the head, and tenderness about the external auditory passages. No air-douche today.

To apply leeches behind the ears.

Tuesday, 12th.—Leeches have not been applied. Left ear, one foot four inches; right ear, two feet. After a forced expiration, left ear, two feet five inches; right ear, three feet three inches.

Friday, 15th.—Ear-ache has shifted from the right to the left side. Has had some leeches applied behind the left ear.

To repeat the leeches.

Monday, 18th.—Has had ten leeches applied behind the left ear. Still some pain and tenderness of the left ear.

Tuesday, 19th.—No pain, but still

some tenderness. Fomented the ear last night with warm water.

To rub in tartar emetic ointment behind and below the left ear.

Thursday, 21st.—Left ear, one foot; right ear, one foot and three quarters. Still some tenderness of the left ear. Pain is excited when air is forced into the tympanum by attempting to expire with the nose and mouth closed.

Tuesday, 26th.—Right ear, two feet three inches; left ear, two feet one inch. No recurrence of ear-ache.

Wednesday, 27th.—Again some pain in the left ear. Hearing not so good to-day. Nasal catarrh continues.

Friday, 1st March.—Hearing very dull to day; no ear-ache. Air-douche applied to both sides. The air entered freely, but produced great gurgling. No pain during the application of the air-douche; but the Schneiderian membrane is so tumid that a very small catheter only can be passed along the nostrils without causing pain.

The cold is now going off; the mucus is therefore increased in quantity and becoming thicker, hence the greater degree of deafness.

After the air-douche, the hearing distance on the right side was one foot eleven inches, on the left side one foot six inches.

Saturday, 2d.—Right ear, one foot eleven inches; left ear, one foot nine inches and a half.

Right ear treated. The hearing duller immediately after the application of the air-douche.

Monday, 4th.—Right ear, one foot nine inches; left ear, one foot two inches and a half.

Left ear treated. Some obstruction to the free entrance of the air at first, but that was readily overcome, and then the air entered freely.

After the air-douche, the hearing distance of both ears was about two feet and a half.

Wednesday, 6th.—Right ear, two feet eleven inches; left ear, two feet five inches.

Right ear treated.

Friday, 8th.—Does not hear so well to day, but does not complain of ear-ache.

Monday, 11th.—Right ear, one foot three inches; left ear, one foot.

Applied the air-douche to both sides. After the air-douche, the hearing distance of the right ear was found raised to two feet and a half, of the left ear to one foot eight inches.

Tuesday, 12th.—Right ear, two feet and a half; left ear, two feet.

Left ear treated. During the injection of the air, felt a sudden pain in the situation of the mastoid cells.

Wednesday, 20th.—Right ear, one foot four inches; left ear, only seven inches.

Air-douche applied to the left ear—great gurgling.

Thursday, 21st.—Right ear, one foot; left ear, one foot nine inches.

Air-douche applied to the left ear to-day again, the right nostril being too tender to allow the catheter to pass. During the application of the air-douche felt a sudden pain, as on Tuesday, the 12th.

After the air-douche, the vapour of acetic ether, diffused in air, was allowed to flow gently into the tympanum.

After this treatment by the air-douche and ethereal vapours, the hearing distance of the left ear was two feet and a half.

Friday, 22d.—Hears well to day, but has not time to be treated.

Monday, 25th.—Right ear, four feet one inch; left ear two feet seven inches.

Right nostril still too tender to admit of the introduction of the catheter.

Left ear treated by the air-douche and ethereal vapours. After this treatment the hearing distance was three feet four inches.

Tuesday, 26th.—Right ear, three feet seven inches. Left ear, one foot eight inches.

Left nostril so tender as not to allow of catheterism to day. The tonsils and uvula red and swollen. The mucous membrane of the nose also red and swollen.

To apply a leech within each nostril and to take a dose of jalap and rhubarb.

Wednesday, 3d April.—Right ear, one foot nine inches. Left ear, two feet.

Left ear treated.

Monday, 8th.—Right ear, two feet three inches. Left ear, three feet six inches.

Right ear treated. After the treatment heard the watch at the distance of six feet.

Wednesday, 10th.—Right ear seven feet three inches. Left ear, three feet four inches. Left nostril too sensitive to allow the passage of the catheter.

Right ear treated by the air-douche and the ethereal vapours.

Friday, 12th.—Right ear, seven feet and a half. Left ear, one foot and a quarter.

Left ear treated. A pricking sensation felt in the ear, from the ethereal vapours.

Has heard, yesterday and to day occasionally, sounds like the beating of a hammer.

Monday, 15th.—Right ear, seven feet six inches. Left ear, 4 feet ten inches.

Has not heard the beating since. Right ear treated.

Friday, 10th of May.—Has been in the country since the last report.

Right ear, 9 feet 2 inches. Left ear, 7 feet, 5 inches.

The hearing having improved so much of itself while in the country, I thought it advisable not to pursue the local treatment any further, but to wait and see what the powers of nature would do.

I have seen this patient twice since, when he complained that his hearing was becoming dull again.

Remarks.—The result of this case has in some degree justified the anticipation of Mr. Quain. The scrofulous diathesis, with an unhealthy state of the tegumentary system in general, evident in this patient, was a great obstacle to permanent improvement. As in Case II, the disease of the ear was called into existence by an exanthema. It appeared to be confined to the middle ear, the mucous membrane of which was in a state of chronic catarrhal inflammation, alternately calming down and becoming aggravated. All that the air-douche appeared to do when applied by M. Deleau, as well as when I applied it, was to effect the dispersion of the accumulated mucus, and so improve the hearing for a time. The affected membrane, however, not being at the same time restored to a healthy action, the mucus was always re-accumulating; hence the constant tendency to relapse, and the comparatively small progress made by the treatment above recorded, until the membrane lining the tympanum was directly acted on by the vapours of acetic ether. After this, the improvement was more striking than before, and probably, if it had been persevered in, decided and permanent advantage would have been ultimately gained.

A point worthy of notice was the improvement in the hearing effected by forcible expirations with the nose and mouth closed. It has been long known, that by making a forced expiration with the nose and mouth closed, deafness is in some cases considerably relieved. With such facts, Deleau remarks, it is surprising that blowing air artificially into the tympanum in deafness was not thought of sooner. Archibald Cleland spoke of blowing air into the tympanum a hundred years ago, but his was a mere suggestion and I do not find that he meant the air should be sent in by any other means than by the operator blowing with his mouth through a flexible tube (the ureter of a large animal) attached to the catheter introduced into the Eustachian passage*. When the hearing is improved by merely forcing the breath through the Eustachian tubes into the tympanic cavities, it is in general a sign promising farther advantage from the air-douche. In recent cases of muculent obstruction of the tympanic cavities, without obstruction of the Eustachian tubes, very considerable improvement may in this way be obtained, as in the following:—

Case IV. Friday, 26th April, 1839.—Master G. H. aged about 14. Hears the watch at the distance of nine inches on either side. The deafness has been occasional in occurrence for some time, and varied in degree. Has had sore throat lately, but is now better. The tonsils are somewhat enlarged, and the uvula long. A rather too copious secretion of wax, which appears at the very entrance of the auditory passages, though it does not stop them up.

On making the patient expire forcibly with the nose and mouth closed, the hearing distance was raised on the right side to four feet nine inches, and on the left side to five feet seven inches.

If the obstruction be of some standing, such an event does not so readily take place, but that more or less improvement

* Wathen's cases by aqueous injections are well known. Busson (an absque membranæ tympani apertura topica injici in concham possint. Paris, 1784. Haller, Collect. Diss. Chir. t. 2, p. 286) proposed to effect the discharge of fluids effused into the cavity of the tympanum by forcing vapours into the Eustachian tube. His proceeding was to fill the mouth with the vapours, close the lips and nose, and then make a long forced expiration, by which the vapour is driven through the Eustachian tubes into the tympanum.

may be obtained by it is shown in Case III. and Dr. Sims (Memoirs of the Medical Society of London) mentions a case in which forcing the breath into the Eustachian tube, with the nose and mouth closed, proved successful after the deafness had continued for more than a year.

The subject of Case III. took iodine, though not with any marked advantage. This medicine was first employed in deafness by Dr. Manson, of Nottingham, who however gave no particular diagnosis for the cases in which it proved useful. But as he also succeeded in curing chronic dacryocystitis by the same remedy, I am inclined to think that in Dr. M.'s cases the deafness was owing to affection of the mucous membrane of the middle ear, especially as I have shown that the membrane lining the tympanum and Eustachian tube, and that lining the lacrymal sac and nasal duct, strongly resemble each other, both in their structure and in their diseases. It is in children, however, and at the commencement of the complaint, that iodine has most influence in diseases of the ear.

In the course of Case III. it is several times mentioned that the hearing was diminished immediately after the air-douche: Dr. Kramer considers this a positive sign of nervous deafness. Whether it be so or not, the state of the middle ear in this patient was sufficient, in my opinion, to account for all his deafness, and the improvement gained from the application of the ethereal vapours bore too strong an analogy to the speedy and marked improvement, derived from a stimulating application in chronic catarrhal ophthalmia, to induce me to look deeper for a part which might be supposed to be that at fault, and therefore the one benefited by the remedy.

REMARKS
ON
THE PHARMACOPŒIA OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH, 1839.

By Richard Phillips, F.R.S. &c.

[*For the London Medical Gazette.*]

Aqua Ammoniæ. *Diluted aqueous solution of ammonia.* "Density 960; nitric acid occasions no effervescence." Whether nitric acid occasions effervescence or not, may depend entirely on the strength of the acid employed; for if it be not diluted, the effervescence of ammoniacal gas is extremely violent, owing to the heat occasioned by chemical action. Carbonic acid is, I presume, the admixture that the nitric acid is intended to detect; lime water, or a solution of chloride of calcium, are much better tests of the presence of this acid than nitric acid, even when properly diluted.

Aqua Ammoniæ Fortior. *Concentrated aqueous solution of ammonia.* "Density 880: one fluidounce with three of water makes Aqua Ammoniæ," meaning, of the density of 960, as above directed. This statement, however, is erroneous, for when a solution of ammonia is mixed with water, the density of the mixture is nearly the mean; so that one volume of solution of ammonia, of density 880, and three volumes of water, will have a density of 970 instead of 960: two, instead of three, fluidounces of water should have been directed to be added to one fluidounce of the stronger solution of ammonia.

Argenti Nitras. *Nitrate of silver.* "Soluble in distilled water, with the exception of a very scanty black powder," which, however, does not occur when the salt has been properly prepared from pure silver.

Barytae carbonas. *Carbonate of baryta.* "One hundred grains dissolved in an excess of nitric acid are not entirely precipitated with sixty-one grains of sulphate of magnesia." If, by sulphate of magnesia, the anhydrous salt be intended, then this statement is correct; but there is no indication of this, and it requires either calculation or experiment to discover a meaning which there are no grounds for suspecting to be hidden.

Barytae Murias. *Chloride of barium.* "Ninety-nine grains in solution, acidulated with nitric acid, are not entirely precipitated by 49 grains of sulphate of magnesia." Why the solution is directed to be acidulated with nitric acid I cannot discover; if the salt be pure, it is perfectly soluble in water without any such addition.

I have just shewn that "sulphate of magnesia" means *anhydrous* sulphate, and I shall presently prove that "sulphate of magnesia" also means *crystallized* sulphate: hence, when crystalliza-

ble salts are mentioned, we are under the necessity of determining, by calculation or by previous trial, with what materials an experiment is to be performed. In this instance, the muriate of barytes and the sulphate of magnesia may be crystallized or anhydrous, and it may require four calculations, or as many experiments, to discover the state in which the salts are intended to be employed: thus—

1st.	The muriate may be	crystallized	and the sulphate	crystallized.
2d.	„	„	anhydrous	„	crystallized.
3d.	„	„	anhydrous	„	anhydrous.
4th.	„	„	crystallized	„	anhydrous.

In these four cases the quantity of each salt required is, in the

	Muriate of Barytes.		Sulphate of Magnesia.	
1st.	..... crystallized,	99 grains	..... crystallized,	99·8 grains.
2d.	..... anhydrous,	99 „	..... crystallized,	117· „
3d.	..... anhydrous,	99 „	..... anhydrous,	57· „
4th.	..... crystallized,	99 „	..... anhydrous,	48·6 „

Making, therefore, a slight allowance for the difference between the weights of the equivalents which the College appear to adopt, and those used by me, it is evident that, by the aid of repeated calculations or experiments, the inquirer may arrive at a correct conclusion as to the meaning which the College attach to the words "muriate of barytes" and "sulphate of magnesia."

It follows also, that, in this case, two meanings may be conveyed by the same term; whereas, under acetum destillatum and acidum aceticum, "crystallized carbonate of soda" and "carbonate of soda" have both the same meaning: whether to give the same name to two different substances, or two different names to the same substance, has the merit of being the less ambiguous, I shall not stop to inquire.

Creta Preparata [Præparata]. *Chalk, finely pulverized by levigation.* "A solution of 25 grains in ten fluidrachms of pyroligneous acid, when neutralized by carbonate of soda, and precipitated by 32 grains of oxalate of ammonia, continues precipitable after filtration by more of the test." Under the head of acidum pyroligneum (this name being given to pure acetic acid) it is stated, that one hundred minims neutralize at least fifty-three grains of carbonate of soda, meaning, as I believe, in the state of crystals; ten fluidrachms, or six hundred minims, therefore, saturate 318 grains of the carbonate, equivalent to 110 grains of carbonate of lime: hence it follows that the acetic acid directed for dissolving twenty-five grains of chalk is capable of dissolving more than four times that quantity, and the excess requires 244 grains of carbonate of soda for saturation; so that before the lime of twenty-five grains of chalk can be precipitated from solution by oxalate of ammonia, nearly ten times its weight of carbonate of soda is used to saturate the excess of acid employed in dissolving it.

Magnesiæ sulphas. *Sulphate of magnesia.* "Ten grains dissolved in a fluidounce of water and treated with solution of carbonate of ammonia, are not entirely precipitated by 280 minims of solution of phosphate of soda." I have shown in two cases that sulphate of magnesia means the anhydrous salt; it might therefore be very naturally concluded that the same meaning would in this instance attach to the same words; on making the experiment, however, with the crystallized sulphate, I found that the precipitation occasioned by the phosphate of soda when added a second time, was not nearly so considerable as it would have been if the anhydrous salt had been used. In this instance, therefore, sulphate of magnesia means the crystallized salt, as it must also do in the directions for preparing the carbonate of magnesia.

Pulvis antimonialis. *A mixture chiefly of sesquioxide of antimony and phosphate of lime, with a little antimoniate of lime.* "Distilled water, boiled with it and filtered, gives with sulphuretted hydrogen an orange precipitate: muriatic acid digested with the residue becomes yellow, does not become turbid by dilution, but gives a copious orange precipitate with sulphuretted hydrogen." Not only is antimonial powder *not* chiefly sesquioxide of antimony and phosphate of lime, but it frequently contains not a particle of the former; the antimony is mostly in the state of deutoxide or antimonious acid. A proof that it contains very little sesqui-

oxide, if any, is indeed given by the College in stating that the muriatic solution "does not become turbid by dilution." If this preparation contained sesquioxide chiefly, it would be almost entirely soluble in muriatic acid, for this oxide and phosphate of lime are very readily taken up by it.

It appears to me more probable that it is antimonite than antimoniate of lime, which the powder contains.

QUINAE SULPHAS. *Sulphate of Quina.* "A solution of 10 grains in a fluid-ounce of distilled water, and two or three drops of sulphuric acid, if decomposed by a solution of half an ounce of carbonate of soda in two waters, and heated till the precipitate shrinks and fuses, yields on cooling a solid mass, which when dry weighs 7·4 grains."

Supposing that the sulphuric acid added amounts to six grains, and the sulphate to contain two grains, less than twenty-five grains of the carbonate would be sufficient to precipitate all the quina, instead of the 240 grains ordered.

I made the experiment with 10 grains of the sulphate of quina, 25 grains of the carbonate of soda, and three drops of sulphuric acid; I found that there was more of the alkaline salt than was required; the quina was readily separated by the filter, and it weighed when dry 7·1 grains.

POTASSÆ SULPHURETUM. "*A mixture of sulphate of potash with persulphuret of potassium.*"

This cannot be a correct description of this compound, which in p. 111 is called Potassii Sulphuretum, for, if it contains persulphuret of potassium, a considerable portion of carbonate of potash must also be present. This will appear from the following statements:—480 grains of sulphur are heated with 1920 of carbonate of potash, of which one-fourth is converted into sulphate; the remainder, after deducting 16 per cent. of water, must contain 691 of potassium, requiring 552 of sulphur to convert them into bisulphuret; now, as the whole quantity of sulphur amounts to only 480 grains, of which 92 are converted into sulphuric acid, there remain only 388 grains to perform the office of 552; and this calculation is made without any allowance for the loss of a portion of the sulphur by volatilization.

I have now concluded such remarks, and detailed such experiments, respecting the Materia Medica and the chemical statements connected with it, as my time has permitted me to offer. On some future occasion I shall probably make some observations on what the College candidly admit to be their "patchwork" nomenclature. There are still some statements in the Materia Medica, which appear to me to require putting to the test of experiment; and, with respect to the different formulæ contained under the head of "Preparations and Compounds," there are some, of which I question the practicability, and more, of which I doubt the eligibility. These processes I intend to subject to trial as soon as I can find leisure.

I cannot, however, quit the Pharmapœia, even at present, without pointing out what seem to be some typographical errors occurring in the Materia Medica.

The following list exhibits, as it appears to me, instances of the omission of capital letters, in cases in which they ought, according to the best authorities, to have been employed:—

Acorus calamus	instead of Acorus Calamus.
Carum carui	Carum Carui.
Cinnamomum cassia	Cinnamomum Cassia.
Anamirta cocculus	Anamirta Cocculus.
Citrus limonum	Citrus Limonum.
Humulus lupulus	Humulus Lupulus.
Daphne mezereon	Daphne Mezereon.
Strychnos nux-vomica	Strychnos Nux-vomica.
Juniperus sabina	Juniperus Sabina.
Polygala senega	Polygala Senega.
Aristolochia serpentaria	Aristolochia Serpentaria.
Taraxacum dens-leonis	Taraxacum Dens-leonis.
Arctostaphylos uva-ursi	Arctostaphylos Uva-ursi.
amygdalus communis	Amygdalus communis.
Acacia catechu	Acacia Catechu.
Areca catechu	Areca Catechu.

In the following instances the College have varied their practice, in some cases employing capitals, and in similar ones neglecting them:—

Aurantii oleum	Bergamotæ Oleum.
Hydrochloric acid	Hydrochloric Acid.
Carbo ligni	Carbo Animalis.
Antimonium Tartarizatum	Ferrum tartarizatum.
Cinnamomum Zeylanicum	Cinnamomum zeylanicum.
Maranta indica	Cetraria Islandica.
Rosæ Fructus	Juniperi fructus.
Calamina preparata [præparata]	Creta Preparata [Præparata].

The inaccuracies in the natural history part of the Materia Medica, are, however, of a much graver description than those which I have just pointed out.

"Castoreum. *Castor: a peculiar secretion from the præputial follicles of Castor fiber.*" Castoreum, or castor of the shops, is the præputial follicles with their contained secretion, of the Castor Fiber. According to the definition of it given by the College, apothecaries ought, of course, to use the secretion only, in making tincture of castor, throwing away the follicles themselves.

"Cinchona coronae, *Crown-Bark.*"

"Cinchona cinerea, *Gray-Bark.*"

"Cinchona pallida, *Pale-Bark.*"

Much confusion has been here introduced. It might be naturally supposed that *crown*, *gray*, and *pale* barks were different kinds of Cinchona bark; whereas the fact is, that crown and gray barks are pale barks. The only other kind of pale bark known in English commerce, is ash bark, an inferior kind, of little value. Surely the College did not mean this? But if not, what is meant? Again, the College have translated the terms *gray* or *silver* Cinchona by Cinchona *cinerea*, which means literally, *ash-coloured Cinchona*, and which for shortness may be termed *ash Cinchona*. Now ash Cinchona of commerce is a very distinct and inferior kind of bark to that called "*gray or silver Cinchona.*" Further, why is the hyphen (-) put between the words *Crown*, &c. and *Bark?*

"Aloe indica." What is meant here? Aloes produced in India? If so, none is found in English commerce. Does it mean aloes brought from some part of the world by way of India? If so, "*Aloe socotrina*" is "*Aloe indica.*"

"Calamus aromaticus" is obtained from *Andropogon Calamus aromaticus* (Royle, *Hist. of Hindoo Med.* p. 33.) The rhizoma of *Acorus Calamus* is a very different substance.

"Ergota. *An undetermined fungus developed in place of the seed upon Secale cereale.*" Decandolle's opinion here adopted by the Edinburgh College has been satisfactorily disproved by the investigations of Phillipar, Phœbus, Smith, Quekett, and others. Both Fries and Berkeley evidently doubted its correctness.

"Hordeum. *Decorticated seeds of Hordeum distichon (L. W. Spr.); Barley.*" The decorticated grains of Hordeum distichon form *Scotch* or *Pearl Barley*, but not "*Barley*," as so called in England.

"Glycirrhizae radix." The substance meant is a *rhizoma*, not a *root*.

[To be continued.]

ON THE DECOMPOSITION OF IODIC ACID BY URIC ACID AND BY ALBUMEN, AND ON THE VALUE OF IT AS A TEST FOR MORPHIA, IN CASES OF POISONING BY OPIATE PREPARATIONS.

To the Editor of the Medical Gazette.

Sir,

You will oblige me by inserting the following communication in the Medical Gazette.—I am, sir,

Your obedient servant,

Wm. Davidson, M.D.
Lecturer on Materia Medica, and one of the Physicians to the Glasgow Royal Infirmary.

Glasgow, 1st August, 1839.

It was first shown by Serullas that iodic acid was decomposed by morphia, the latter combining with the oxygen of the former, while the iodine is set at liberty; and that it might be used as a very delicate test for this alkaloid. Since this fact was announced, iodic acid has been particularly noticed by many writers on chemistry and toxicology, and by some recommended as ex-

ceedingly delicate, capable of detecting 1-100th part of morphia. It is, therefore, important, as far as poisoning with opium is concerned, and more particularly morphia, to ascertain whether there be any constituent of animal bodies that possesses the same property; for, if there be, this reagent for morphia must lose the greater part of its value.

When making some experiments on the urine of a patient, several months ago, I observed that the addition of iodic acid to it, disengaged the odour of iodine, and that the fluid assumed a blue colour on the addition of gelatinous starch. This result led me to inquire, what constituent of the urine had this property; and on trying urea and uric acid, I found that the latter only possessed it; and that it might be indicated in the urine of diseased, as well as in that of healthy individuals. I next tried the effects of iodic acid on the serum of the blood, and found that a similar result was obtained, but more slowly, and the colour was less deep, than in the case of healthy urine.

I shall now describe the experiments which were had recourse to. When a grain or two of colourless uric acid is mixed with a small quantity of a tolerably strong solution of iodic acid, and well stirred together for a few minutes, the odour of iodine gradually becomes sensible; and on the addition of a little gelatinous starch, a purple tint is soon observed, which gradually assumes a deep blue colour. A similar result is obtained from calculi which contain uric acid as a predominating constituent. When iodic acid is added to healthy and recently passed urine, the odour of iodine is very speedily developed, and the addition of gelatinous starch causes a pretty deep purplish blue colour and precipitate. But if the urine be alkaline, either from decomposition or from the use of alkaline medicines, the action of the iodic acid is more slow; but it may be quickened by the addition of a little diluted sulphuric acid; although in this case the blue colour soon disappears. I have tried the urine of several healthy persons, as well as that of individuals affected with various diseases; viz. typhus fever, pneumonia, and pleuritis, and in every case a purplish blue colour has been developed on the addition of iodic acid and starch. When iodic and gelatinous starch are added to the serum of the blood (contained in a small phial), no particular effect is sometimes observed for a considerable time; but by employing occasional agitation, and generally after the lapse of 20 or 30 minutes, a reddish tint is observed, which gradually deepens into a purple colour and precipitate, exhaling at the same time the odour of iodine. The colour of the fluid and precipitate is not permanent; but disappears in a few hours. When a little diluted sulphuric acid is added, the purple or bluish-purple colour is developed in a few minutes; but it very soon disappears, as in the case of the urine when similarly treated. Having obtained this result with the serum of the blood, it was natural to conjecture that it might be owing to the presence of uric acid, which is still, as far as I know, only a hypothetical constituent of this fluid. Before, however, any probable conclusion of this kind could be drawn, it seemed necessary to try some of the organic constituents of the blood, and the first that was experimented with proved the fallacy of the supposition. When white of eggs is beat along with water for some time, in about equal proportions, and afterwards mixed with iodic acid and gelatinous starch, in a phial, which is to be frequently shaken, the liquid, after the lapse of 5 or 10 minutes, becomes reddish, then purple, and finally deepens into a permanent indigo-blue colour and precipitate, exhaling strongly the odour of iodine. The same effects take place when the albumen ovi is diluted with thirty parts of water; but the colour with this proportion has a purple hue, and is more apt to be decolorized, apparently by an excess of iodic acid. This latter experiment seemed to me nearly conclusive that albumen possessed the property of decomposing iodic acid; but to render it more so, the following one was adopted. A portion of the serum of the blood was coagulated by heat, the fluid part of the clot was carefully pressed out from a cotton cloth, the coagulated albumen was then macerated in cold water for two or three days, and the water afterwards pressed out from it. The solid albumen was then put into a small phial along with iodic acid and gelatinous starch; frequent agitation was employed, and nearly the same purple colour, possessing similar characteristics, was developed, as when uncoagulated serum of the blood is employed. Every albumi-

nous fluid that I have tried has produced the same results, varying in the intensity and beauty of the colour; viz. serum from the brain of a typhus patient, the fluid evacuated from the peritoneum of a person who was tapped for ascites, hæmatosin carefully freed from serum and dissolved in a considerable quantity of water, and the serum of cow's milk. The serum of blood, even when diluted with 4 or 5 parts of water, produces, with iodic acid and starch, nearly the same purple colour, but more beautiful, as when employed in the undiluted state. It would appear from these results, that iodic acid is capable of being decomposed by substances which exist to a large extent as constituents of our food, or as component parts of the fluids and solids of the animal bodies; and that one of the secreted fluids, viz. urine, contains, as an ordinary constituent, an element capable of effecting the same change upon it. Hence, in analyzing the contents of the stomach, in a case of poisoning with morphia or opium, the certainty of encountering albumen, and the possibility of meeting with uric acid, would render the separation of the morphia from these two substances so difficult and complicated, that no precise conclusion could be drawn from the indications of iodic acid as a reagent.

CASE OF OVERDOSE OF COLCHICUM.

To the Editor of the Medical Gazette.

Sir,

As the following case of the result of an overdose of colchicum appears to place the effects of that drug in a new point of view, as to its power in diseases of the joints, if you think it worth a place in your extensively-read periodical, it is very much at your service.

I am, sir,
Your obedient servant,
T. A. Henderson,
Surgeon, &c.

39, Clifton Street, Finsbury.
July 31st, 1839.

Mrs. M. aged 33, residing in Worship Street, of a corpulent and gross habit of body, and occasionally addicted to drinking, having had some words with her husband, swallowed the contents of an ounce phial nearly full of tincture of colchicum, with the intention of poisoning herself. This was at 11 o'clock on Thursday night. At about 2 o'clock on Friday morning, great pain at the stomach and vomiting came on. The matter first vomited was food taken the night before, and this was followed by a great quantity of thick yellow bile—several basons full. Severe purging now came on, also of bilious fluid. The matter vomited became thinner and less yellow, and ultimately (Friday evening) it was of a pale straw colour, containing a large quantity of small white shreddy particles; and a discharge of the same kind now came from the bowels. During the entire of Saturday, much of this was vomited up, but the purging ceased. About 10 o'clock on Friday morning, she felt a numbness of the feet and hands; and to this succeeded a prickling feeling, as if, so she expressed it, "they had been asleep." All the joints of the fingers and toes, and also the wrists and ankles, were very painful, and the toes and fingers were painfully flexed at times. Pain in the shoulder-joints succeeded, and, on Saturday, in the hips and loins. It was also increased in intensity, so that she said that she thought she should go mad. Ultimately, almost all the bones and joints were affected with pain, which was of a gnawing, dragging character. Just before these symptoms were at the height, very profuse sweats came on, and were of a very sour odour. I may mention, that to the pains in the limbs was added, on Sunday evening, great stiffness and pain in the back of the neck and occiput, which was aggravated by moving the head: there was also a feeling as of something tightly bound round the head; and on moving the tongue, and in swallowing, she experienced sharp pain about the root of the tongue. She asked me if she had not got rheumatic fever. Some females in the room were also struck with the similarity of the symptoms.

Such is the general account of the symptoms. As to the treatment, she had effervescing medicine to allay the vomiting, followed by castor oil; but as the pains in the bowels became severe, I took 14 oz. of blood, and had the bowels fomented several times, which checked the enteritic symptoms, and allayed the pain; afterwards I gave her calcined magnesia and tincture of hyoscyamus, which seemed to quiet the stomach, and remained down when every thing else was returned immediately it was swallowed. But the other symp-

toms, and such as seem peculiar to the drug, and might be called the secondary effects of it on the system, followed quite unchecked by the bleeding, &c.; and these I look upon as the most remarkable features of the case, especially the intense rheumatic kind of pain in the hands and feet, which began first, and continued during the origin and progress of the affection, in the other joints and limbs, and was very severe on Tuesday, so much so that she could not bear me to press her finger-joints, nor to extend them from their semi-flexed condition.

Are we from these symptoms to infer that the utility of this drug in gout and rheumatism depends on its specific or secondary action on the joints, and not, as Dr. A. T. Thomson observes, by acting as a counter-irritant on the whole alimentary canal, and by emptying the liver? In this case the pains in the joints continued exceedingly severe long after the vomiting and purging had ceased; and, indeed, up to that period, it was not near so intense as it became afterwards. As I have not seen these rheumatic pains noticed as occurring after an overdose of colchicum, I should feel much gratified if any of your numerous readers, who may happen to meet with a similar case, would observe if such symptoms also make their appearance when the vomiting and purging are decreasing.

REGULATIONS OF THE COLLEGE OF SURGEONS.

To the Editor of the Medical Gazette.

Sir,

In the last number of the Lancet I see a report of Dr. Webster, to the Association of which he is President, containing an account of his mission to the Meeting of the Provincial Medical and Surgical Association at Liverpool. At its conclusion he remarks, on a motion brought forward, and indeed carried, by Mr. Turner, of Manchester, respecting some regulations of the College of Surgeons having reference to country pupils.

Not to remark on other parts of Dr. Webster's report, I think I am right in saying, that a person reading this last part would conclude from it, that Mr. Turner's motion was in accordance with the feeling of the large majority of the members: this, I do not hesitate to say, was not the case.

I have allowed that the motion was carried, and consequently the petition to the College of Surgeons depending upon it must be presented; but the number of those who voted was small when compared with the number present, and even then, the majority in favour of it was so small that it has been questioned, had the votes been counted whether the motion would have been carried.

It was evidently Mr. Turner's opinion, nay more, I believe I am justified in saying, his direct assertion, that the provincial schools are capable of affording a pupil sufficient means of education, and consequently that there is injustice in requiring their pupils to spend any time in London before examination. At least one gentleman, attached to an hospital in his own neighbourhood, was found to differ from him in this opinion; and I could mention more than one respectable hospital medical man in another neighbourhood also differing from him.

And if the majority of the meeting did not (as I contend they did not) agree with him as to the policy of his measure, still less did they approve of the reflections he thought fit to make on the motives of the College of Surgeons, and the opinion he expressed respecting their feeling towards provincial practitioners.

I have been induced to trouble you with these remarks from the interest which, as a member, I feel in the success of the Provincial Association, and from my conviction that the chances of its success can never be increased by remarks tending to beget ill feeling between provincial and metropolitan medical men.

An association reckoning nearly twelve hundred must possess some influence; and the circumstance that the Lancet makes it the object of its abuse, is a proof that it possesses some respectability. There is, therefore, the greater necessity that it rightly direct the one; and, from a due remembrance of the second, never allow itself to be hurried into intemperate attacks on others, in the prosecution of its objects.

By giving this communication a place in your pages, at your earliest convenience, you will oblige, sir,

Your obedient servant,

John Barrett.

Bath, 17, Westgate Buildings,
August 6, 1839.

CASES OF ASTHENIA.

To the Editor of the Medical Gazette.

Sir,

The two cases I have the honour to send you are descriptive of forms of disease not met with every day, and which, when they do present themselves, are often mistaken and mistreated. I shall feel much obliged, therefore, by your giving insertion to them, with some observations of my own, in the Medical Gazette.—I remain, sir,

Your very obedient servant,

Melbourne B. Gallwey,
Assistant Surgeon,
Royal Artillery.

Woolwich, August 1839.

Early in the spring of the present year, I embarked in a transport from Jamaica, in medical charge of two companies of artillery, and a proportionate number of women and children. We had not been many days at sea when the following case came under my notice. —— Balneaves (the child of a corporal in the Royal Artillery), a stunted, delicate-looking little girl, about two years and a half old, was brought to me by its mother, with the ordinary symptoms of disordered bowels, viz. diarrhœa, pain in the abdomen, some heat of skin, white tongue, &c. Such affections, unhappily, are far from being rare in transports, where the vicious quality of the water, contaminated by being kept, through a short-sighted and miserable economy, in wooden casks in place of iron tanks, creates the disease, and by remaining in operation, as a perpetual exciting cause, opposes an almost irresistible barrier against the chances of a successful treatment.

"Alitur vitium—vivitque tegendo."

On the present occasion I prescribed some castor oil and hyoscyamus, and a small dose of a mild preparation of mercury at night; desired the mother to allow it as little water as possible, and in place of the salt provisions with which it had hitherto been fed to substitute arrow-root and preserved meat or soup. Under this treatment the child soon became convalescent, and was removed from the sick list. Need I say, however, that this child, with an intestinal mucous membrane perhaps still in a state of abnormally exalted sensibility, and consequently predisposed to take on an irritative action, was sent back from my hands to encounter the very same sources of evil as had proved so pernicious to it before! The poor little thing, like the rest of us, was reduced to the alternative of drinking its allowance of water or of drinking nothing at all. It did not, perhaps, consume very much, for we were all on a short allowance, which, considering its quality too, might have been rather an advantage than otherwise, though we did not think so, I remember, at the time.

Within a week the mother brought back her child to me again, with an aggravation of all its former symptoms. The stools now ran from it with very little intermission, day and night, and were greatly deranged from their healthy character. For three days I pursued a plan nearly similar to the former, excepting that I gave up during the last twenty-four hours the castor oil and mercury, and substituted chalk mixture and opium in their place, from a fear that the former might reduce my patient too much. At the end of this time, what with the disease and the doctor, the child was much enfeebled, but the diarrhœa had given way, and the alvine discharge assumed a natural appearance. Early on the morning of the fourth day I was summoned by its anxious mother to the bed-side of the child, to witness an entirely new train of symptoms, from the commencement of which I may date the true interest and importance of the case. Well may I say a new train of symptoms had arisen, for I have seldom seen, within a few hours, such a metamorphosis as this poor child now presented. I found her lying on her mother's lap, with the pallor of death on her face, her features greatly shrunk, and her eyes sunken deeply into their orbits. She whined and screamed incessantly, and was exceedingly impatient of my presence, screaming yet more loudly when I attempted to touch her. Her pulse was 140 and eminently feeble. The surface of her body was cold, and her hands and feet particularly so. Bowels had not been moved for twenty-four hours. Here was indeed an altered state of affairs; but on what did this state depend? I could perceive no sufficient cause to account for the present symptoms; and no one of them was especially prominent. I felt at a loss how to act, and determined therefore to

temporize for a while. Yet there was one striking feature in the case which spoke for itself. The child was manifestly below par, and in a condition which forbade any mode of treatment calculated further to depress it. I ordered it, accordingly, ten grains of rhubarb, and two of the extract of hyoscyamus, in a table-spoonful of port-wine, which I believed would moderate the action of the aperient, and prevent the exhaustion that might otherwise follow its operation. The medicine produced its effect very soon; but, I regret to say, that effect was less mild than I had anticipated. I omitted to mention, that I had the child put into a hot bath as soon as it could be procured, and bottles of hot water applied to its feet and abdomen when replaced in bed; besides which, I ordered the mother to give it occasionally a table-spoonful of hot wine and water, and, if it would take it, some preserved soup likewise.

At 6 P.M. my little patient bore evidence of yet greater exhaustion, and to its former symptoms was now added a state of decided coma; the pupils were, however, obedient to light, and not manifestly dilated; the pulse had risen to 150, and the child was tormented with a constant husky cough. All things wore a most unfavourable aspect, and foreboded, I believed, an early and fatal termination. But I now suddenly remembered the remarkable and very interesting history of an affection (to which the present case bore a close analogy) which had been described by Dr. Marshall Hall, and subsequently by Dr. Gooch, and which represented a disease of the head in children arising from exhaustion, which much resembled, and was generally treated as hydrencephalus.

From what I could recollect of the descriptions given by these physicians of the disease in question (for I had neither of their works with me at the time), I believed that the case of this child offered a very strong and striking illustration of the same. I regretted now the purgation I had subjected it to again in the morning, and determined to lose no time in attempting to snatch my patient from its impending fate, by the steady employment of stimulants and a nutritious diet. I commenced by prescribing a tea-spoonful of hot brandy and water every half hour; and a small quantity of preserved gravy soup occasionally in the intervals. To rouse the energies and circulation of the brain, I applied a blister to the neck and ordered the child to be put at once into a hot bath, to be well enveloped in blankets when taken therefrom, to have the bottles of hot water continued, and on no account to be removed from the horizontal position. At 10 P. M. I went to see the result of this treatment. It had truly operated like a charm, the hands and feet had exchanged their former lifelessness for a uniform and comfortable glow, the surface of the body also and the cheeks were now warm. The child had lost much of its former irritability, and allowed me to feel its pulse without opposition, which had fallen to 110, and no longer galloped as before. It had slept occasionally, the mother informed me, during the last hour; but I attached not too much importance to this communication, as the sleep might still have partaken of its former comatose character, although the child now seemed lively and unclouded in its faculties. The parents had not failed to notice the striking improvement in their child. It was indeed remarkable in degree, and such as I could not have dared hope for in so short a space of time. Fearing the remedy might be carried too far, I desired that the brandy should be discontinued during the night, with the exception of a dose at midnight, and one early in the morning, before I should see the child.

At 8 A. M. the next morning, I found that the amendment was steady and progressive. My patient had slept refreshingly towards the morning, was now free from all appearances of coma, its face was warm and much less pallid than on the evening before. Pulse 98, soft and moderately full; the blister had risen well. I did not think it necessary to order the brandy now oftener than every four hours. The soup was continued, the child seeming to relish it much. The day after this, the improvement was so steady that I considered the child's state as no longer doubtful. Indeed, its recovery was progressive from this time, notwithstanding the disadvantages it had to contend with, of want of air, of proper food, and the perpetual uproar arising unavoidably out of the crowded scene around.

Dr. Gooch, in alluding to Dr. Mar-

shall Hall's account of this disease, observes—"The only difference between our experience seems to be this—that he attributes the state which I have been describing to the diarrhœa produced by weaning, or to the application of leeches for some previous complaint. In most of the cases I have seen, however, the child has had no previous illness, and the leeches have been applied subsequent to the drowsiness, and as a remedy for it."

The case I have myself now brought under review would appear to confirm Dr. M. Hall's description of the history of the affection, inasmuch as it presented too very opposite and distinct stages, and was ushered in by the symptoms of disordered bowels. "This morbid affection," says the latter physician, "has usually been first induced by some change in the diet, by which the stomach has been loaded or disordered, and the bowels perhaps affected with diarrhœa; and this latter state has frequently been exasperated by the untimely administration of an aperient medicine. The infant becomes irritable, restless, and feverish; the face flushed, the surface hot, and the pulse frequent; there is an undue sensitiveness of the nerves of feeling, and the little patient starts on being touched, or from any sudden noise; there are sighing, moaning during the sleep, and screaming; the bowels are flatulent and loose, and the evacuations are mucous and disordered.

"If, through an erroneous notion as to the nature of this affection, nourishment and cordials be not given; or, if the diarrhœa continue, either spontaneously or from the administration of medicine, the exhaustion which ensues is apt to lead to a very different train of symptoms. The countenance becomes pale, and the cheeks cool or cold; the eyelids are half closed, the eyes are unfixed, and unattracted by any object placed before them, the pupils unmoved on the approach of light; the breathing, from being quick, becomes irregular and affected by sighs; the voice becomes husky, and there is sometimes a husky teazing cough; and, eventually, if the strength of the little patient continue to decline, there is crepitus or rattling in the breathing; the evacuations are usually green; the feet are apt to be cold."

He goes on to say, that this state of exhaustion is occasionally brought about by the abstraction of blood. "In both cases, leeches are sometimes again applied to subdue this new form of disease, under the erroneous notion of a primary cerebral affection. This measure infallibly plunges the little patient into imminent, if not irretrievable, danger."

Dr. Marshall Hall, it will be observed, portrays, in the above picture, an affection characterized by two stages. Of such, likewise, did the case I have detailed consist. But, although there is considerable resemblance in the latter to the description given of the disease by this physician, I do not consider there to have been, in the first stage of the case which fell under my own notice, any symptoms which contraindicated the use of aperients—which bespoke a disease partaking of the nature of exhaustion—or any which could have warned me of the state of things about to arise. I look upon it, indeed, to have been a simple case of disordered bowels, plainly traceable to a common cause, and presenting in its character no marked evidence of depression, or any thing foreign to such cases in general.

Having described the first stage of this disease, and as a prelude to the second, the same gentleman observes,—"If, through an erroneous notion as to the nature of this affection, nourishment and cordials be not given," &c. With great deference to this high authority, I much fear that few practitioners possess a discrimination sufficiently nice to enable them to detect in a retrospect of the symptoms detailed, as far as the passage I have just quoted, aught that could be looked on as the harbinger of an approaching affection of this description, or any thing in the symptoms themselves belonging to such a condition. "The infant," in the words of the text, "becomes irritable and feverish, the face flushed, and the surface hot." These, it will be remembered, are amongst the symptoms of a condition said by the author to be one of exhaustion. But in the next page I find my respected and distinguished friend observing,—"The condition of the cheeks, in regard to colour and warmth, may be considered as the *pulse* of very young infants, indicating the degree of remaining power or of exhaustion. In the present case, especially, there is no symptom so important, so distinctive. It is from the condition of the cheeks, in conjunction

with a due consideration of the history, that the diagnosis of this morbid state, and the indication of the appropriate remedies, are chiefly to be deduced. The general surface, and especially the hands and feet, also afford important sources of information as to the condition of the nervous or vital powers."

I have ventured to make these few observations by the way (allusive to the warning which Dr. M. Hall throws out to us, not to form an erroneous opinion of the nature of the first stage of the affection), from a belief that there is scarcely sufficient evidence in the picture he has given of it, that a state of exhaustion is at the bottom of the symptoms; and few men — few men without much experience, at least — would hesitate, I think, to combat such a state with aperients:—"the sighing, moaning during the sleep, and screaming," would certainly awaken attention to the necessity of not depressing unnecessarily the powers of life; but I fear they would do little more with the generality of practitioners: and whether Dr. Gooch is correct or not, in believing the affection from its commencement to dash at once, as it were, into what I have spoken of as its second stage — viz. the coma, heaviness of head, excessive pallor and exhaustion, &c., I cannot but fear that if there be a stage antecedent to this, it will seldom point out to the physician "the narrow path" which is to direct his treatment to the prevention of the subsequent very serious disease. The principal object to be desired, then, is that we should be enabled to understand the nature of the latter condition when presented to our notice, so that we may then bring all the means of a safe and correct treatment to bear upon it.

Dr. Gooch's history of the affection is so interesting in its detail, that I cancannot resist giving a short quotation from it in this place.

"I am anxious to call the attention of medical men to a disorder of children which I find invariably attributed to, and treated as, congestion or inflammation of the brain, but which I am convinced often depends on, or is connected with, the opposite state of circulation. It is chiefly indicated by heaviness of head and drowsiness. The age of the little patients whom I have seen in this state, has been from a few months to two or three years; they have been rather small of their age, and of delicate health, or they have been exposed to debilitating causes. The physician finds the child lying on its nurse's lap, unable or unwilling to raise its head, half asleep, one moment opening its eyes, and the next closing them again, with a remarkable expression of languor. The tongue is slightly white; the skin is not hot; at times the nurse remarks that it is colder than natural; in some cases there is at times a slight and transient flush. The bowels I have always seen already disturbed by purgatives, so that I can scarcely say what they are when left to themselves: thus the state which I am describing is marked by heaviness of the head and drowsiness, without any signs of pain; great languor, and a total absence of all active febrile symptoms. The cases which I have seen have been invariably attributed to congestion of the brain, and the remedies employed have been leeches and cold lotions to the head, and purgatives — especially calomel. Under this treatment they have gradually become worse, the languor has increased, the deficiency of heat has become greater and more permanent, the pulse quicker and weaker, and at the end of a few days or a week, or some time longer, the little patients have died with symptoms apparently of exhaustion."

In a paper I published in the Med. Gazette of October last, on the Nature and Varieties of Delirium, I attempted to direct the attention of the profession to the frequency of its dependance on adynamic causes—on causes the very reverse of an excess of action in the brain, deducing my conclusions principally from the works of the most eminent physicians who had written on the subject; and coma, which delirium often subsides into, may well be said to belong to the same family of symptoms as the latter, to result from similar causes, and to be dependent on the same pathological condition of the brain, viz. sometimes on plethora, sometimes on anæmia of the organ. Galen and Boerhaave notice the occurrence of such symptoms as the result frequently of other causes than hyperæmia of the brain. Nay, Hippocrates seems to have made some allusion to this fact, where he says, that diseases from an excess and a deficiency of power produce the same train of cerebral symptoms.

Sydenham, Cullen, Wilson Philip, Armstrong, Van Rotterdam, and others, have all in their turn urged these vital considerations on the notice of physicians. Though now revived, indeed, by the moderns, these head symptoms arising from exhaustion of the brain, are nothing more nor less than what compose the "apoplexia ex inanitione" of earlier writers. Celsus has observed, that bleeding sometimes appears to save, at other times to kill the patient, which is simply to be explained by the circumstance of this disease depending sometimes on an excess of blood in the brain, sometimes in a deficiency of the vital fluid. As coma, or an oppressed state of the brain, forms so important a symptom in this affection, I may quote what Dr. Adair Crawford says in the article Coma, in the Encyclopædia of Practical Medicine, on the diagnosis of this condition:—

"The temperature of the surface of the body may be considered one of the safest guides with respect to the propriety of blood-letting, together with the state of the pulse and the action of the heart. We have never, indeed, seen beneficial effects follow venesection when the animal heat has been very low, even although the strength of the pulse might appear to justify its being prescribed. The temperature of the body is, perhaps, a safer general criterion of the exact condition of the powers of life than even the pulse; for, do we not see the arteries pulsating and throbbing with great force and frequency in cases where there is an undoubted tendency to debility and sinking? This opinion relative to the degree of heat on the surface is that, it will be remembered, to which Dr. M. Hall attaches likewise so much importance."

Dr. Holland's admirable observations on "bleeding in affections of the brain," in his recent work, entitled, "Medical Notes and Reflections," contain much which belongs to the subject under review—viz. the dependence of coma, delirium, &c. on an exhausted state of the brain; and must be read with interest and advantage by every member of the profession. "In the ordinary use of the term coma," says this writer, "the notion of pressure is associated with it by most practitioners. But it is familiar to us also, as a concomitant and token of the last stage of debility, and is often expressly induced by depletion and other depressing causes, as well as by those which are known to produce direct pressure on the brain. Even in children, we have express instances of a state having all the characters of coma, but which is proved by the precursory causes, as well as by the effects of medical treatment, to depend on general feebleness of circulation and deficiency of nervous power." Again, "Delirium, preceded generally by vertigo, is known as an effect of extreme starvation, without other obvious disease, as frequently recorded in the narrative of shipwrecks." Dr. Holland, in the admirable chapter from which I have quoted the preceding remarks, pictures eloquently the irreparable consequences too often attendant on an indiscriminate employment of depletion for symptoms of this nature, arising from antiplethoric causes. We want a constant repetition of such appeals to keep this subject alive in the minds of medical men. Much has already been written on the subject. To Marshall Hall the profession owes a deep debt of gratitude for his book on "the morbid effects of loss of blood." In letters of gold every page of that work should be inscribed. Still how much is left to be done! How the profession still swarms with Sangrados! Let a poor wretch happen to sink on the pavement of a populous street, whose day has been spent in anxiety and fatigue of body and mind, and who has fasted for many hours: he presents more or less of the symptoms of apoplexy, is taken into the nearest doctor's shop, is bled to deliquium, sent to his house with a pocketful of drastic pills; is then, perhaps, bled again, and dies to a certainty—not of his disease, but manslaughtered (to be mild in expression) by his doctor. Yet the doctor is not wise or no wiser than ever, and will practise the same feat on the following day. Another is overtaken in the streets by a fit. He also is robbed of a pound or two of blood, because it is a fit, while food and stimulus might have restored him to health. It cannot, indeed, I think, be denied that an immense amount of incurable mischief is annually done by this rage for blood-letting, whilst comparatively little would result from a prejudice against the remedy; there being a tendency in most diseases, as Dr. Clutterbuck observes, to subside

spontaneously, if not interfered with; whilst purgation often renders the adoption of the other unnecessary.

I cannot agree with this eminent physician in thinking it preferable to draw blood in general, where other substitutes might be found for it; or "that it is milder in its operation or safer in its effects than other remedies that are resorted to in its stead." Neither do I think that "convalescence, or the restoration of strength after the termination of disease, is sooner accomplished where the cure has been effected chiefly by bleeding than where it has been brought about by those miscalled milder means." "Again," says the same authority, "the opposition to the practice has been chiefly founded, I believe, in an affectation of singularity, for the sake of vulgar notoriety: it is certainly not sanctioned by experience." I think, on the contrary, we should husband blood in every affection to which our "flesh is heir," where we can safely do so, where we can find a more innocent substitute, and where active inflammation is not positively going on. The mischief created by Dr. Clutterbuck's "herculean remedy," when employed in the spirit of that phrase, is generally injurious—is often irreparable. I have been led insensibly into this long digression, by the nature of my subject, to which explanation I must also refer the overgrown length of this article. I cannot, however, in conclusion, rerist extracting one passage more from Dr. Gooch's article on this interesting affection:—

"In observing disease, two sets of symptoms may be noticed, which are mixed together in the case, but which require to be discriminated to form a correct opinion of it: the one consists of the striking symptoms which form what may be called the physiognomy of the disease; the other consists of those symptoms which indicate the morbid state of organization, on which the disease depends; the former only are noticed by the common observer, but the latter are the most important, and the skilful physician takes them for his guides in the treatment. 'He notices not only where the hour-hand of nature's clock points, but also the run of its hour and minute-hands.'

"Two patients complain occasionally of dimness of sight, swimming of the head, singing in the ears, and observe that if they turn the head on one side to look at an object, they feel as if they should fall; but the one is plump, florid, and has a full pulse; the other is pale and thin, has cold hands and feet, and a pulse small and feeble. One practitioner bleeds them both; the other bleeds the one, but does all he can to give blood to the other. The latter cures both his patients; the former cures the one, but ruins the health of the other; but such is the nature of the human mind that the cases for a preconceived opinion are retained easier than those against it. He remembers his good deed, forgets the other, or calls the case anomalous, and marches on, without the slightest doubt that bleeding is the universal and sovereign remedy, for dimness of sight, swimming of the head, and singing in the ears, save and except only in anomalous cases."

What eloquent, what beautiful, what masterly reasoning! I can do no homage to that critic who will not allow that I have quoted one of the most striking master-pieces of medical composition in our language—one of the most beautiful appeals to the understanding—and one of the most faithful pictures of daily occurrence that has ever adorned the literature of our profession.

Let me urge those members of the profession (and few, I trust, they are) who have not read this great physician's work on "Some of the most Important Diseases of Women," (which contains the article that I have quoted so largely in this paper), not to delay longer an opportunity of increasing their store of practical information. Every word in that rich production tells; in every line is a homily.

The work of Dr. Marshall Hall, in which is contained his history and first notice of this pseudo-hydrencephaloid disease, must be well known to every practitioner. Few there must be who are not familiar with his explanation of the "Morbid Effects of Loss of Blood." Truly may these master workmen in our art—these authors of two such books—be styled "giants" amongst "the small fry" of their calling.

[To be continued.]

OBSERVATIONS

IN REPLY TO

T. WHARTON JONES' STRICTURES.

By Dr. Martin Barry.

[*For the London Medical Gazette.*]

My claims to originality in my "First Series" of Researches in Embryology* are before the scientific public, and by their deliberate opinion will be ultimately decided. It is not out of any anxiety to vindicate these claims that I offer the present communication; it is to repel certain charges made by T. Wharton Jones, in the Medical Gazette, July 20, 1839, having a personal bearing, and calculated to induce an impression of unfairness and want of candour on my part, in alluding to the works of other physiologists in general, and his own in particular. My "pretensions to novelty, originality, and correctness" are before a tribunal on whose intelligence and impartiality I can rely, and from whose decision I will not shrink.

The first accusatory remark of T. Wharton Jones is an allusion to the following passage, which he quotes from my "First Series":—

"It may not be improper, in the first place, to furnish an idea of what has been already published on some branches of the subject; *for it is one to which the attention of physiologists in this country has scarcely begun to be directed.*"

To this quotation T. Wharton Jones appends the following note:—

"Had there been no other, the labours of Dr. Allen Thomson in this field ought to have been sufficient to have obviated the reproach so sweepingly implied, in Dr. Barry's allegation, against the physiologists of this country."—*Loc. cit.* § 1.

I think it is obvious from the context of the passage cited, when taken in conjunction with what had preceded it—and which T. Wharton Jones has not quoted—that I meant to make no invidious allusion whatever to the labours of English physiologists on the subject of embryology in general, but that the remark objected to in that passage has a reference only to that portion of the science of embryology which regards the existence of the microscopic ovum in the ovary of mammals, as discovered by Baer, and upon which so little had been observed or written in this country as compared with German research, that I thought—and still think—myself perfectly justified in stating, that the attention of physiologists in England had scarcely begun to be directed to it*.

One of the objects of T. Wharton Jones, in his communication above referred to, was to apprize me that a paper of his—read before the Royal Society in 1835, but not printed in the Philosophical Transactions—was published in the Medical Gazette for Session 1837-38, pp. 680-88; London, 1838†. I was not previously aware that the paper in question, by T. Wharton Jones, had been published, or that it was any where accessible, otherwise I should have deemed it right to include some statements made by that author along with similar ones previously made by others, which I noticed in my "First Series," for the purpose of showing that they differed from my own observations. I have now seen, in the Medical Gazette, No. 18, 1838, the paper to which T. Wharton Jones has directed my attention; and I refer him to my "First Series" for the points of difference just alluded to.

I will here observe, that there is the less necessity for going into the scientific part of the question at any length with T. Wharton Jones, inasmuch as I find in his paper no new fact whatever, with the single exception that he has stated the Graafian vesicle of mammals to be analogous to the capsule of birds‡. With that one exception there is, indeed, nothing that appears to me

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* Philosophical Transactions, 1838, Part II., page 301.

* It affords me particular pleasure to quote the following from an eminent German author:—"The best and most condensed survey of the whole doctrine of generation—based on his own observations—has been given by Allen Thomson, in the article 'Generation,' in Todd's Cyclopædia of Anatomy and Physiology, vol. ii. p. 424."—(Rudolph Wagner, Lehrbuch der Physiologie, Erste Abtheilung. Physiologie der Zeugung und Entwickelung, p. 6. Leipzig, 1839.) I may add my belief, that no one is more competent to offer an opinion on this subject than Professor Rudolph Wagner.

† A considerable portion of it was republished by him in the Medical Gazette, July 20, 1839.

‡ I was not aware that T. Wharton Jones had asserted the analogy above-mentioned at the time when my "First Series" was written, for the reason before given. But it will presently be seen how much he knew of the real nature of either of the structures in question. As to the

to have been new at the time when he presented his paper to the Royal Society, in 1835; and to tread over beaten ground for the mere sake of personal controversy, is neither pleasant nor profitable. But there is one point upon which T. Wharton Jones seems to set up "pretensions to novelty, originality, and correctness," on which I must be permitted to say a few words.

In 1835 this author presented to the Royal Society an account of the germinal vesicle discovered by him in the mammiferous ovum; adding, in a postscript in reference to this discovery, "it would appear that M. Coste has anticipated me." The Memoir of T. Wharton Jones not having been printed in the Philosophical Transactions, the author published it at full length in the MEDICAL GAZETTE, in 1838 (No. 18, p. 680), with the same postscript in which he had yielded the priority of discovery to Coste. It is remarkable, however, that T. Wharton Jones had not in the meantime heard that in 1834 a thesis was published at Breslau, in which ten quarto pages were devoted to a description of the germinal vesicle as existing in the ovum of all orders of the class mammalia, and remarks connected with it. This thesis was by Bernhardt*, but the drawings are by Valentin, who seems to have been the discoverer of the vesicle in Germany. This thesis was particularly referred to in a translation I gave from the German of Valentin, in the Edinburgh Medical and Surgical Journal, No. 127, 1836. But farther, *in the year* 1834 R. Wagner sent to Müller's "Archiv" a particular description of the germinal *Spot*, discovered by him within the germinal vesicle, a structure which he considered constant in the class mammalia—so extended had been his observations. This discovery by Wagner was mentioned in the Edinburgh Medical and Surgical Journal, No. 126, 1836, above alluded to, and it was at the same time stated in that journal, on the authority of Professor Johann Müller, that the account had been sent by Wagner to the "Archiv" in 1834. Upon these points T. Wharton Jones is silent.

T. Wharton Jones quotes two passages from pages 312 and 314 of my "First Series," in which I showed that a vesicle, called by me the "ovisac," in mammals, corresponded to one which had been denominated the "chorion" in other vertebrata; and also, that it was by those vesicles acquiring a covering susceptible of becoming highly vascular, that the structure is produced, usually termed a "Graafian vesicle" in mammalia, and a "capsule" in other vertebrata. T. Wharton Jones adds, "All this is true; but I dissent from the allegation that it was not clearly stated before. I can answer for myself, that I am not one of the authors who have mistaken the ovisac of birds for the analogue of the chorion of mammals." (*Loc. cit.* § 6.) I did not say that T. Wharton Jones was one of the authors who had mistaken the ovisac of birds for the analogue of the chorion of mammals. On the contrary, it does not appear from his papers that he ever saw the vesicle which I denominated the "ovisac" of birds, in its originally independent state; and as to the corresponding vesicle, called by me the "ovisac" in mammals, I am not aware that any observer had described it before myself. With what degree of justice, therefore, T. Wharton Jones made the above assertion, will now be obvious.

T. Wharton Jones says (MED. GAZ. 1838, No. 18, p. 682), "I shall mention the points most worthy of notice in the structure of the hen's egg, in the *first stage* of its formation," and he then describes the capsules, as "varying in magnitude, from that of a *millet-seed* to a full-sized yelk." In my "First Series," (plate v. fig. 22), the ovisac—*i. e.* the subsequent inner layer of the capsule—of the bird was figured (having the incipient ovum within it) of a size so minute that some thousands of such ovisacs might be contained within a "millet-seed." Yet, according to T. Wharton Jones, he described the hen's egg in the "*first stage*" of its formation.

T. Wharton Jones says (MED. GAZ. 1838, No. 18, p. 686), "I might also add, that the granulary membrane, proligerous *disc*, and granulary fluid of the Graafian vesicle, are probably superadded parts, of which there is no trace within the capsule of the bird's ovary." In my "First Series," it was shown that a fluid containing "granules

analogy between the ovum of the bird and the Baerian vesicle of the mammal, this was pointed out by several authors in 1834.

* Symbolæ ad Ovi Mammalium historiam ante prægnationem.

essentially the same [as the very remarkable ones in the ovisac of mammalia] exist at an early period in the ovisac of birds."—(*l. c.* p. 329, pl. v. fig. 23; pl. viii. fig. 76). It was also shown (pp. 329, 330), that the situation of the ovum in the Graafian vesicle had not been understood by those who stated it to be contained in a "*disc.*" T. Wharton Jones took some pains to point out the resemblance between the Graafian vesicle of the mammal and the capsule of the bird. Yet now, when made aware how much he knew of the real nature of either of these objects, he considers them "structures of secondary importance in the economy of the ovum—structures which, on that account, had been less carefully studied" (Med. Gaz. July 20, 1839, § 9).

To vindicate my own motives and conduct against charges of misrepresenting or undervaluing the labours of others, or claiming undue credit for my own, being my chief object, I have no wish to recriminate on T. Wharton Jones; but when he chooses to quote a passage from the abstract of a paper by me, as an illustration of my opinion upon an important subject of physiological investigation, I cannot help observing that it was not quite fair to have garbled it in the manner in which the following passage has been garbled:—"He (Dr. B.) has traced the chorion from stage to stage, up to the period when it becomes villous, and shows that it is not, as he formerly supposed, the thick transparent membrane itself of the ovarian ovum, but a thin envelope closely investing that membrane, and not appreciable as a distinct structure until the ovum has been crushed. * * * The chorion subsequently thickens, and imbibes a quantity of fluid, presenting a gelatinous appearance."—(*Loc. cit.* § 7.) The asterisks certainly indicate that something has been omitted, but the reader would understand thereby that what was omitted was not necessary to the proper understanding of the question in dispute between us. By the omission, however, which T. Wharton Jones thought proper to make, he has got rid of the difficulty of noticing certain anatomical facts, the "pretensions" of which "to novelty, originality, and correctness," it was, perhaps, easier to omit than answer*.

* The words omitted to be quoted by T. Wharton Jones were these:—"When the chorion first admits of demonstration as a distinct structure, the ovum consists of *three* membranes; a state which the author *has seen* in an ovum no farther advanced than about an inch into the Fallopian tube."—(Proceedings of the Royal Society, No. 38, 1839.)

Another paragraph of T. Wharton Jones (*l. c.* § 10) contains the following passages, quoted from the abstract of my "Second Series" of "Researches on Embryology"*:—

"The knowledge at present supposed to be possessed of the early stages in the development of that ovum (the mammiferous ovum) consists chiefly of inferences from observations on the ovum of the bird.

"But there exists a period in the history of the ovum of the mammal regarding which we have hitherto scarcely any direct or positive knowledge."

T. Wharton Jones then remarks—"For a perfect and unqualified contradiction of this very bold assertion, I would refer to my memoir, contained in the Philosophical Transactions, Part II. for 1837, page 339, already alluded to."

Now what is the "perfect and unqualified contradiction" of this "very bold assertion" for which T. Wharton Jones refers to his memoir? The contradiction thus alluded to appears to be certain inferences from observations on the ova of the frog and newt; consequently, more conjectural than demonstrative.

As to the "mode of origin of the chorion," another point on which T. Wharton Jones dwells at some length, my "Second Series," to appear in the forthcoming volume of the Philosophical Transactions, will show what are really the differences between the results of his observations and my own, on the relative value of which I leave physiologists to determine. I shall only further remark, that T. Wharton Jones's opportunities of observation, as compared with my own, may be stated as *one* to *twenty-five*—that gentleman, on his own admission, having examined *four* rabbits, whereas the number devoted to anatomical inspection by myself exceeds *a hundred;* and also, that the paper in question will show that T. Wharton Jones has only renounced one erroneous "notion"—as to "the mode of origin of the chorion"—to fall into another.

* Proceedings of the Royal Society, No. 38, 1839.

MEDICAL GAZETTE.

Saturday, August 17, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."
CICERO.

THE NEW EDINBURGH PHARMACOPŒIA.

We remarked in our late article on this subject, that the Edinburgh College have ventured upon an alteration in the language of their Pharmacopœia, which will gratify the majority of those who use it; and though *laudatur ab his, culpatur ab illis,* may be applied to every change, more will be found to praise than to blame Dr. Christison and his able colleagues for using English instead of Latin. They have been so bold and so fortunate as to effect another change, which, we think, will meet with even more applause, as it is a still greater step to intelligibility, and therefore to public advantage. The Edinburgh College, far from attempting to follow the last changes of chemical nomenclature, and catch the "Cynthia of a minute," have very sensibly adopted, in many instances, the well-known names formerly used in pharmacy and medical practice. Thus they call calomel, *calomelas;* and corrosive sublimate, *sublimatus corrosivus* *. These names have the immense advantages of being perfectly distinct from each other, and universally understood—advantages which can certainly not be predicated of *hydrargyri chloridum,* and *hydrargyri bichloridum.* "The result," they say, "has necessarily been a patchwork, of which we cannot boast, but which the public will probably receive in consideration of its convenience."

This motley state has arisen from the partial retention of the modern names, which has been done, probably, on the supposition that many of them were pretty well naturalized in pharmacy. This is true in certain cases; in others, the chemical names scarcely serve the purpose of names at all, as they are not commonly understood without a definition appended to them. Thus, in popular nomenclature, the carbonate of soda is called the subcarbonate; and to shew that even chemists may disagree, the same alkali, saturated with carbonic acid, is called by the London College the sesquicarbonate of soda; and by the Edinburgh, the bicarbonate. If we were inclined to lament the schisms of botanists, and the everlasting splitting of genera which allows no name to be safe, we might find sufficient examples in the Pharmacopœiæ of this island. Thus, in London it is asserted that gamboge is produced by the Stalagmitis cambogioïdes; in Edinburgh, they say that the Siamese variety comes from an unascertained plant inhabiting Siam, probably a species of Hebradendron; the Ceylon gamboge from the Hebradendron cambogioïdes. Camphor is obtained from the Laurus Camphora, according to the London College; but Nees von Esenbeck and the Edinburgh College call the plant Camphora officinarum. The plant producing cardamoms was once named Amomum Cardamomum, and, for a short time, Matonia Cardamomum; but now the northern college call it Renealmia Cardamomum, and the southern one, Alpinia Cardamomum. Here, rhubarb is afforded by the Rheum palmatum, and cascarilla by the Croton Cascarilla; while there, the former is the root of an undetermined species of rheum, and the latter is the bark, probably of Croton Eleuteria, and possibly of other species of the same genus.

But enough of this; we will now proceed from words to things. On comparing the Materia Medica of the

* Perhaps *sublimatum corrosivum* would be better.

Edinburgh with that of the London Pharmacopœia, the chief articles in the former, which are not to be found in the latter, are the sulphate of barytes, the nitrate of lead, and chiretta—a name given to the herb and root of Agathotes Chirayta. This is probably the same plant which has been called Chirayit, Creata, and Gentiana Chirayita. It is one of the Gentianeæ, and is said by Gray to be highly esteemed in India*. The Edinburgh College direct an infusion to be prepared with four drachms of chiretta to a pint of water.

Bucku does not belong to the list of additions, but to the catalogue of varying names given above; it means Buchu leaves, which are said by the Edinburgh College to be the produce of various species of Barosma; but are identical with the leaves of the Diosma crenata of the London Pharmacopœia. Some other substances, such as ferri iodidum, we pass over, for though not in the London materia medica, they are in the body of the work.

On examining the preparations and compounds, the following are some of the more striking points. Among the alkaloids and their salts we find a very useful solution of muriate of morphia, containing four grains and a half in the ounce; it is equal in strength to laudanum.

It is to be regretted that the London College, in the last edition of the Pharmacopœia, omitted the table giving the proportion of opium and other powerful remedies contained in their compounds; nor is there any assistance of the kind in the work before us.

Among the decoctions there is one of logwood; and the decoctum scoparii differs from the London preparation by containing cream of tartar instead of taraxacum; the quantity of the salt ordered is three drachms to a pint, which is far more than it will dissolve.

Among the distilled waters we find an aqua laurocerasi, a convenient form of Prussic acid. In the French Codex, the *eau de laurier-cérise* is marked with the star, which indicates that it is to be kept by every druggist.

There are no cataplasms in the Edinburgh Pharmacopœia. The enemata, five in number, are all useful; and perhaps the enema catharticum, consisting of olive oil, Epsom salts, sugar, and senna, with sixteen ounces of water, might be advantageously admitted into the London Pharmacopœia. Two of the enemata, however, are open to objection in their present state, for they contain an ingredient in a variable dose: the enema opii is to be made with half a fluidrachm to a drachm of laudanum, and the enema tabaci with fifteen grains to half a drachm. Now this offered choice frustrates one great object of a Pharmacopœia—that of relieving the memory of practitioners, who need recollect only the name and the dose of a preparation, but not the exact proportion of its ingredients. In both these instances it would have been sufficient to give the weaker compound only; or else there should be a clear understanding that when the physician prescribes enema opii, or enema tabaci, without fixing the strength, the smallest quantity of the potent drug is to be used.

The extractum Krameriæ (rhatany root) is peculiar to the Edinburgh Pharmacopœia*, and so is the extract of nux vomica. The latter is highly extolled by Magendie.

Among the infusions we find an inconvenient clashing of the two Pharmacopœiæ in one of our commonest preparations. The infusum sennæ of the

* Supplement to the Pharmacopœia, 4th edit. p. 56.

* Whenever we use this phrase in our present analysis, we do so in a limited sense, and mean *peculiar* to signify that which is not common to it and the London Pharmacopœia. Both the extracts above mentioned are in the French Codex.

Edinburgh work is nearly the same thing as the inf. sennæ comp. of the London one, being only a fifth weaker; but the infusum sennæ comp. of the Edinburgh Pharmacopœia, independently of its containing tamarinds, coriander seeds, and brown sugar, is made with only a drachm of senna leaves to eight ounces of water. This must lead to misapprehension and mistake; but let us hope that better days are approaching. The extreme similarity of the two Pharmacopœiæ must strike every reader; and it would require but a few mutual concessions to convert this likeness into identity.

We will continue this subject on an early occasion.

ENGLISH PRACTITIONERS AT WIESBADEN.

No one can practise physic in any part of Europe unless he has been licensed by some medical college of the country. Such, we believe, is the universal theory; but the practice is as various as the climates. In England, for instance, the unlicensed practise physic and surgery with impunity, while it is most dangerous to be a contraband apothecary. In France the theory is more strictly observed; yet, even there, every town patronized by the English has its complement of British practitioners, who but rarely, we apprehend, have the license of any French college.

It is not very long ago, however, since the attempt was made to expel the English physicians from Boulogne; but, ultimately, they were allowed to remain, on condition of prescribing for their countrymen alone.

In Germany, again, the authorities must often find it for the interest of a town to wink at the practice of English physicians; and we never heard, till last week, of their forcible expulsion.

The gouty layman, indeed, whose lively pamphlet we introduced to our readers on a former occasion*, laments the want of a sufficient number of good physicians at Wiesbaden; and says, "The permission to English physicians to write prescriptions without risking arrest by the police, it is to be hoped, will either be granted, or competent persons, with a knowledge of their own profession and of our language, be appointed to attend the place; otherwise the English, to whom Wisbaden is most indebted, will be in a somewhat destitute condition: for their own knowledge of French being much upon a par with that of the local physicians, the dialogue cannot always have a very satisfactory, or, indeed, be otherwise than of doubtful result."

In fact, if patients most deeply skilled in their native language can scarcely find words to express the endless shades of morbid sensation, how vain must be the attempt when the language spoken is foreign both to the physician and the sufferer, and each idea is expressed, or rather veiled, by the dim medium of a double translation! But in spite of the apprehensions of the pamphleteer, the English at Wiesbaden have hitherto enjoyed the advantage of English advice, and have not been molested until this season. Their medical attendants this year were Dr. Downie, who is physician to the Landgravine of Hesse-Homberg, and lives at Frankfort; and our correspondent, Mr. Edwin Lee, the author of a work on the mineral waters of the continent. It appears, from a letter in a late number of Galignani's Messenger, that, as early as the month of April in this year, the native physicians complained to the municipal authorities, that Dr. Downie and Mr. Lee practised at Wiesbaden; and as the letter of the law was against

* Wisbaden recommended to the Gouty, &c. MEDICAL GAZETTE, vol. xxii. p. 810.

our countrymen, the apothecaries of the place were forbidden to make up their prescriptions. They still continued, however, to practise, the medicine-chests of their friends supplying drugs for their patients; but as this was equally fatal to the interests of the Wiesbaden doctors, they were lately summoned before the head of the police, "who obligingly informed them that they must quit the town in forty-eight hours." We anticipated the possibility of such an occurrence in the article above referred to, observing, that an unlicensed practitioner "must not expect to be favoured with a letter from an attorney giving him notice of an action to be tried next Trinity Term—the Duke of Nassau *v.* Dr. X.—but just be satisfied with a simple order enforced by the police, that within twenty-four hours he must quit the dominions of his Highness*."

We are sorry that our forebodings have been so soon realized; but if the English at Wiesbaden will but manifest their natural predilection for British practitioners with sufficient firmness, this foolish preference of the letter to the spirit of the law must be renounced by the rulers of Nassau. The sudden departure of a dozen English carriages from the *Hôtel des Quatre Saisons* would throw infinite light upon the fact, that the legal exclusion of foreign physicians was framed not for the benefit of Nassau leechcraft, but for the protection of the natives from quacks. Now, not to mention that, in the present case, there is not even the pretence of charlatanism, the sixpenny or ninepenny fees given by the natives are of themselves a sufficient guarantee against the attacks of British practitioners; besides which, they might be confined, as at Boulogne, to their own countrymen. This emigration of English visitors would, perhaps, be rendered unnecessary by a well-drawn petition, in which it might be pointed out that nearly all the most enlightened nations of Europe severally prefer their own physicians; and that while the English, the French, the Germans, and the Italians, extol with plausible arguments the respective merits of their practitioners, it would be unjust to deny the patients of each country the pleasure of profiting by them. If the influx of foreign doctors became too great, it might be necessary to institute some examination as a test of fitness; but then it should be a purely practical one, as it is hardly fair to harass middle-aged practitioners with questions about the Coniferæ, or the sub-salts of silver, or the last experiments of Tiedemann and Magendie.

In some future age of good sense, it will be thought even more strange that shackles should ever have been imposed on the commerce of talents, than that France should have refused the cotton of England, and England the wine of France.

We hope that this foolish attempt of the Wiesbaden doctors may come to nought, like a true "bubble from the Brunnens of Nassau."

* Med. Gaz., vol. xxii. p. 811.

THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

The Seventh Anniversary Meeting of this society was held at Liverpool, as we mentioned in our last number, on the 24th and 25th of July.

The following is the Report of the Council:—

REPORT OF THE COUNCIL OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION, FOR 1838-39.

The law of this association, which makes it imperative on the Council to render an account, at each returning anniversary, of the condition and prospects of the institution, is very salutary in its tendency; for not only are those in whom this trust is reposed thereby reminded that they have an important duty to perform, but those occurrences to which it is of consequence

that the attention of the members at large should be directed, are thus brought conspicuously forward, and every one may readily become acquainted with the aims and views of those who take an active part in the proceeding of the Association. On this account it is desirable that the report should touch upon all the prominent circumstances which have occurred; though, in order that time may not be spent in details which might be otherwise more beneficially employed, it is necessary to condense this notice as much as it is practicable.

Happily the members have in the history of this recently formed association no ordinary degree of encouragement: without the slightest approach to exaggeration, it may be confidently affirmed that no institution has ever before been formed for the cultivation of medical science which has in the first seven years of its establishment succeeded in combining together, for the promotion of important objects, so large a number of the members of the several branches of the profession. Previously to the formation of this association, the medical profession resident in the English provinces were dissevered, and had scarcely any common bond of union.

Transactions.

Distinguished as many of the profession have ever been by their medical writings, there was no common provincial repertory through which these writings might come before the public. It was to supply this deficiency that the *Transactions* were originally proposed, and that they are in no small degree calculated to answer the purpose designed, may be inferred from the fact, that contributions have not been wanting to supply interesting and valuable papers, so that every year has produced a volume abounding in useful information. The seventh volume, which has been published since the anniversary meeting at Bath, is peculiarly rich in medical topography; and the Council are assured that the members in general participate with them the gratification they feel in observing that our foreign members take an interest in our proceedings, and enhance the value of our *Transactions* by their excellent contributions to its pages. The Council have frequently pointed out the paucity of reports of provincial sanatary institutions supplied to the Association: of the value of the information to be derived from such sources there can be but one opinion, and a comparatively small portion of industry and perseverance on the part of those who are connected with these establishments would afford most useful and interesting facts, from which conclusions highly instrumental in advancing the healing art might ultimately flow. Already the number of facts of this nature which have been collected in one town alone (Birmingham) is considerable, and your Council cannot but entertain the hope that future volumes of the *Transactions* may have more numerous contributions of this nature. Your Council also here take leave to allude to the recommendation in the Report of the last year, that the members should forward the history of such cases as are of an interesting nature, but not of sufficient importance to be published separately, to the Secretaries, with the view of their being classified upon some future occasion, when they shall be in sufficient number or of sufficient importance to render it desirable to publish them.

Members.

Within the last year the Association has received a considerable accession to the list of members, and they amount in number to 1180.

District Branches.

Your Council have every reason to believe that the system adopted of dividing the Association into District Branches is operating favourably. In no other manner would the business be so easily arranged; and the respective Annual Meetings of the District Branches are admirably calculated to keep alive an interest in the proceedings of the General Association, at the same time that they afford opportunities of social and professional intercourse to many who are prevented by a variety of causes from being present at the General Meetings.

Finances.

It must be remembered, that the annual supply of a volume of *Transactions* to every member, free of any charge, is a very considerable drain upon the funds; and the liberality of our laws in this respect is worthy of notice, as such a custom is followed by scarcely any other society. It makes it, however, the more incumbent upon members to pay their subscriptions punctually, since every one to whom a volume is sent has so much value received, for which his subscription is very little more than an equivalent. Your Council, however, notwithstanding the heavy disbursements for printing, and for the engravings and colouring the plates, and also the existence of arrears in subscriptions to a considerable amount, have to announce the gratifying fact, that the actual receipts for the year exceed the disbursements. Your Council also assure the members, that on all occasions a due exercise of economy is studied; and, at the same time, care is taken so to expend the funds

as to make the *Transactions* creditable to the Association.

The income for the last year is £1324 1 4
The expenditure of the last year is 722 6 9

The balance is.....£601 14 7

Parochial Medical Relief.

Your Council have still to regret that they are not enabled to report any very satisfactory progress in the settlement of this unhappy question. They regret to say that, notwithstanding the decided recommendation by the Parliamentary Committee to the contrary, the system of "Tender" is still persevered in by several of the Boards of Guardians, under the sanction of the Commissioners. The Poor-Law Committee have not been inattentive to their duties since they last reported to the members; and, in particular, they have been in frequent intercourse with Mr. Serjeant Talfourd, who is warmly interested in procuring justice for those of our professional brethren who are oppressed by the provisions of the New Poor Law. It is the advice of this gentleman, on whose judgment and acquaintance with parliamentary business the Council have the fullest reliance, that no further step shall be taken until the next session of parliament, when government must again bring forward a bill, either to continue the powers of the Poor-Law Commissioners, or to substitute another scheme in lieu of the present: the learned Serjeant will then undertake to do all in his power to introduce clauses into the new bill to remedy those defects which the Parliamentary Committee have, in their own Report, stated to exist. Your Council therefore recommend that the Committee, which was appointed last year to watch the further progress of the subject in parliament, and to suggest to the Council from time to time such measures as appear to them necessary to meet circumstances as they arise, be requested to continue their services.

Vaccination Section.

The section appointed to consider the present state of vaccination have assiduously endeavoured to collect accurate information on that subject. The report is prepared, and will be submitted to the Association at this meeting.

Benevolent Committee.

The committee for managing the benevolent fund have continued their efforts to promote the prosperity of this interesting proportion of our undertaking, and will likewise present a report detailing their proceedings for the last year.

Medical Reform.

Your Council beg to assure the Association that, in their multifarious labours, they never lose sight of the general interests of the profession, nor of the necessity of procuring for it a better legal constitution. To this object the energies of the Association may be worthily and beneficially directed. Circumstances, however, have hitherto repressed any direct endeavour on the part of the Association to call the attention of the legislature to the subject. These circumstances will be explained in the report of the committee deputed in 1837 "to watch over the interests of the profession," which will be presented to the present meeting. For this report, and for the recommendation with which it will conclude, the Council earnestly solicit the favourable consideration of all who wish to see the profession rescued from a state of unseemly anarchy and confusion, and placed under the rational government and legal protection to which, as an important branch of civil polity, it is so justly entitled.

Empiricism.

Intimately connected with the question of medical reform is that of quackery, the evils of which were deemed of sufficient importance at the last anniversary meeting to induce the Association to empower their council to form a section for the consideration of the nature, extent, and evils of quackery, and to report on the same at the next anniversary meeting. The Council considered that the wishes of the general body could not be more efficiently carried into effect than by appointing Dr. Cowan, of Reading, who has so meritoriously given much time and attention to this important subject, to be chairman of the section, from which, at the present meeting, a short report will be presented. Its members, however, seem inclined to the opinion, that all active measures, in relation to the suppression of quackery, had better be delayed, in the hope that a better organization of the profession may render the suppression of quackery a more practicable undertaking than it appears at present to be. In the meantime, to use the words of a former report, the Association may be employed in the inquiry into the nature of the evils, their extent, and remedies, by which means they may be enabled, at the proper season, to render valuable aid in legislating upon this question. The Council, therefore, advise, that the section they have appointed be requested by this meeting to continue their investigations on this subject.

Sections.

In the last report your Council adverted

to the propriety and expediency of appointing from the Association sections for the investigation of particular departments of medicine. The meeting at Bath coincided in that recommendation, and appointed a section, to whom the replies to the queries on vaccination were referred. The result of this measure will be found to have been already highly beneficial, and your Council request this present meeting to empower them, during the ensuing year, to propose subjects for investigation by sections of the Association, if circumstances should arise to render it probable that such a proceeding would be attended with satisfactory results.

Report upon Surgery.

At the anniversary at Bath, and subsequently to it, some influential members regretted that no special report had yet issued from the Association on the progress of surgery, and a wish was expressed that this subject should be taken into consideration by the Council. After due deliberation, your Council fully concurred in the propriety of a report being presented to this anniversary on the progress of surgery, and they happily prevailed upon Mr. James, of Exeter, to devote his time and energies to the performance of this duty, for which his acknowledged zeal in the prosecution of the literature of his profession so eminently qualifies him.

Notices of Motions.

Your Council beg to inform the members, that a notice has been given to the secretaries by Dr. Symonds, of Bristol, that a resolution touching the late regulations of the College of Surgeons, which are considered injuriously to affect Provincial Medical Schools, will be submitted to this Meeting.

A notice also of a motion by Dr. James Johnstone stands for consideration at this meeting, to this effect:—"That any member of the Association wishing to compound for his annual subscription may do so by paying ten guineas, which amount shall in all cases be invested in public securities, and the interest arising therefrom be appropriated to the general purposes of the Association."

Conclusion.

Having touched upon so many topics, and indicated the general bearings of the proceedings in which the Association is so meritoriously and so appropriately engaged, your Council feel it altogether unnecessary to prolong this report by any general remarks on the auspicious prospect of the affairs of the Association. To carry on with any degree of success, commensurate with their obvious importance, the several undertakings in which the members are engaged, will require judgment, discretion, zeal, perseverance, and union. Your Council would earnestly entreat every member seriously to consider the magnitude of the objects which are at stake, and then determine whether he can be justified in withholding his exertions from a cause in which the best feelings of humanity prompt him to engage,—as it is intimately connected with the progressive advancement of medical knowledge, and directly tends to the augmentation of human happiness.

CHARLES HASTINGS.
JAMES P. SHEPPARD.

The Association now consists of 1180 members, and the meeting was probably attended by at least a quarter of that number, as about 250 dined together on the second day. Sir James Murray, Mr. Carmichael, Dr. Jacob, Dr. O'Beirne, Dr. M'Donnell, and Dr. Maunsell, came from the Medical Association of Ireland; Dr. Webster and Dr. M. Hall represented what is called the British Medical Association. The following are the principal points in the proceedings:—A petition to parliament for Medical Reform, and another in favour of Vaccination, were adopted. Mr. Turner moved, that a memorial be presented to the College of Surgeons against those regulations which are unfavourable to provincial schools. His resolution was carried by a large majority, yet we apprehend that the heads of the profession will ever be of opinion that a residence in the metropolis is essential to a complete medical or surgical education. A Report on the Progress of Surgery since 1836, was read by Mr. James, of Exeter; the Report of the Benevolent Fund Committee, by Dr. Conolly, of Cheltenham; and a Report on Quackery, by Dr. Cowan.

A joint committee was formed of members of the Provincial Medical Association, the Medical Association of Ireland, and the British Medical Association; and it was

"Resolved—That Drs. Barlow, Webster, and Maunsell, be respectively the organs of communication of the different bodies which they represent, and that a free communication be forthwith commenced between those bodies, for the purpose of drawing up a plan of general medical reform, in the shape of heads of a bill to be considered by the

several committees, and subsequently proposed to the Association.

"Resolved—That a communication with the medical profession in Scotland, and with local Associations in England and Ireland, be opened as soon as possible, and that the members of the committee shall exert their influence to the same effect.

"(Signed) E. Barlow, M.D."

The first of the Associations just mentioned may be a good representative of the feelings of Provincial practitioners; and the second a tolerable one of Irish opinions; but assuredly the British Medical Association does not fairly represent the practitioners of London and its vicinity. Men of note either fight shy of it, from not liking the queer hands by which it is guided; or, which is even still less flattering, seem quite unconscious of its existence.

Professor Gibson, of Pennsylvania, and Dr. Smith, of South Carolina, were among the visitors.

The next meeting of the Association is to be held at Southampton; Dr. Steed is the President elect, and Dr. Forbes will deliver the Retrospective Address.

We are indebted for these particulars to Berrow's Worcester Journal of August 1, which has a Supplement entirely devoted to the proceedings of the society.

DISCOVERY OF VARICOSE CAPILLARIES.

LETTERS FROM DR. HAKE AND MR. KIERNAN.

FROM DR. HAKE.

To the Editor of the Medical Gazette.

Sir,

I take the liberty of transmitting you the accompanying correspondence for publication. I avail myself of this opportunity of stating, that, in my work, which will shortly appear, I have not appropriated any of Mr. Kiernan's views to my own use, but, on the contrary, have only related facts, which, if known to Mr. Kiernan, he first became acquainted with by an inspection of my drawings.

I have the honour to be, sir,

Your very obedient servant,

F. G. Hake.

42, Gordon Square, Tuesday.

Mr. Kiernan has this moment received the inclosed, which appeared in the Medical Gazette of Saturday last, and loses not a moment in sending it to Dr. Hake. Mr. Kiernan informs Dr. Hake that he considers plagiarism, even in the title of a work, a personal insult, and will resent it accordingly. Mr. Kiernan will be at home all this evening, and to-morrow until two o'clock.

8 o'clock P.M., Aug. 12, 1839,
33, Beaumont Street, Devonshire Place.

Gordon Square, Aug. 13, 1839.

Dr. Hake writes to Mr. North, after calm consideration of Mr. Kiernan's very extraordinary note, and the propositions* of which Mr. North was the bearer.

It is impossible for Dr. Hake to avoid seeing that the present wish of Mr. Kiernan is to submit the matter in dispute to the issue of a duel. Had Mr. Kiernan chosen this mode at first, the proposal he has now made might have had some claim for consideration, though even then Dr. Hake would have thought it an extraordinary way of determining the priority of right to a scientific discovery. But Dr. Hake feels, that after Mr. Kiernan has made choice of an appeal to the scientific world, through the usual scientific channels, he has forfeited all right of settling this dispute in the manner now sought by him, even if such right had ever existed.

Dr. Hake does not think it necessary to trouble any of his friends on this matter, as called for by Mr. North; and requests that any future communications may be made in writing, which he deems it right to say may be made public.

John North, Esq.

FROM MR. KIERNAN.

To the Editor of the Medical Gazette.

Sir,

It is with much reluctance that I request the favour of your insertion of the following letters in the next number of your journal.—I am, sir,

Your most obedient servant,

F. Kiernan.

33, Beaumont Street,
Aug. 14, 1839.

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* The propositions of Mr. Kiernan, made through Mr. North, were as follows:—

That Dr. Hake should promise in writing, for the purpose of publication—

1. Never to repeat his advertisement.
2. Never to appropriate to himself any of Mr. Kiernan's views.

Charterhouse Square,
Aug. 12, 1839.

My dear Kiernan,—If you desire any testimony to the entire originality of your discoveries on the subject of morbid growths, you may at any time call on me to declare that I witnessed the "*looped and varicose capillaries*," at your house, in sundry preparations, as far back as the year 1836; and that I have on sundry occasions examined them since that period. I perfectly well remember the interest with which you pointed out, and I examined, at that date, the beautiful series of preparations illustrative of disease in its various stages, from its first appearance up to its full development, which formed the crowning effort of years of previous exertion. Allow me to add, that I also have repeatedly and urgently requested you to make your discoveries known, in the full expectation that the product of your labours would, in some form or other, be anticipated by others.

Believe me, dear Kiernan,
Most truly yours,
FREDERIC C. SKEY.

Francis Kiernan, Esq.

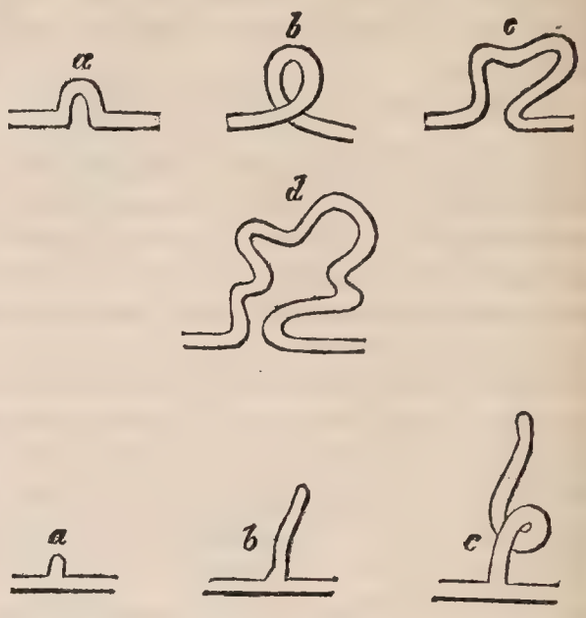
My dear Kiernan,—As I perceive, from the journals of the last week, that a question has arisen between yourself and Dr. Hake, as to the discovery of a varicose state of the capillary vessels, I feel it but an act of justice to you to declare, that, in frequent conversations with you upon the subject of your researches during the last two years or more, you have often stated to me that you were prepared to prove, by preparations, that the essence of cancer, and other morbid growths, consisted in a dilated and varicose state of the capillary vessels.—I am, my dear Kiernan,

Yours very truly,
J. NORTH.

Gloucester Place, Portman Square,
August 12th, 1839.

F. Kiernan, Esq.

[Mr. Kiernan has also transmitted to us copies of letters from Messrs. John Tomes, Campbell De Morgan, and W. R. Gerrard, all bearing testimony to the same point, though their acquaintance with the morbid appearances in question does not date from so long a period; but for these we cannot afford room. Mr. Gerrard, in addition, says, he has learned from Mr. Kiernan that the development of new vessels occurs in two ways; one is by a looping or doubling of capillaries in a varicose manner, while the other may be compared to an aneurismal state of the capillaries, as in the annexed wood-cuts.



With the greatest respect for Mr. Kiernan's talents as an anatomist, and success as a discoverer, we have doubts whether he has adopted the tone best suited to a scientific controversy.—ED. MED. GAZ.]

PARTICULARS OF THE DISEASE AND POST-MORTEM EXAMINATION OF A LITHOPHAGUS.

By Dr. NERET,
Physician to the Hospital St. Charles, at Nancy.

DOMINIQUE Henrion was born at Metz, in 1761. Being but little pleased with the occupations to which he was put when young, he began, at the age of 22, to swallow pebbles. Sometimes he took them whole, and without any preparation; sometimes he broke them between his teeth, after having reddened them in the fire, and then suddenly plunged them in cold water. By this means he passed himself off as a savage from America.

Several years since, he had fixed his abode at Nancy, and there continued the same kind of life, swallowing every day a greater or less number of stones, which on some occasions amounted to 30 or 40. The largest were of the size of a large nut, but they were commonly smaller, and Henrion used to demonstrate their presence in his stomach by the noise they made when he struck his epigastric region. He passed them by stool in 24 hours after taking them, and often made use of

them again next day. He swallowed also live mice, but only one a day, as well as moderate-sized crabs, after having cut off their claws. As to the mice, when they were put into his mouth, they at once rushed into the pharynx, when they were soon suffocated, and the deglutition of them was then facilitated by that of a stone. The next day they passed from the rectum, with their skins destroyed, and covered with mucus.

This man continued the same kind of life up to the 1st of April, 1820. At that time, after having filled his stomach with a considerable number of stones, he swallowed, for a small sum, a tinned iron spoon, five inches and a half long, and an inch broad. Some hours after, he was seized with vomiting, which continued to the time of his death. He first vomited bilious substances, and then fluid tinged with blood, and of a very fetid smell.

In this state he was brought to the hospital on the 6th of April. The vomiting continued; the thirst was excessive; the pulse small and irregular; the abdomen hard, distended, and painful, especially beneath the umbilicus. Next day, after an enema, the patient passed five stones by stool, but he grew worse, and died on the following day, aged 59.

At the autopsy, the medullary substance of the brain was very firm; there was some serum in the ventricles, and some hydatiform vesicles on the choroid plexuses. The lungs were firmly adherent to the walls of the chest, but healthy. The heart was in no respect remarkable. On opening the abdomen, the stomach was found distended with gas; the great omentum was inflamed, and there were points of suppuration on its anterior surface, as well as on the transverse arch of the colon. The whole internal surface of the digestive tube and the parietal peritoneum participated in the inflammation. On raising the great omentum, an aqueous fluid flowed out, in which there floated globules of oil, which appeared to be the medicine that the patient had taken, and which indicated a perforation of the intestinal canal. In fact, the spoon could be felt in the transverse part of the duodenum, and it was seen that the handle, after having pierced this intestine where it curves to take the name of jejunum, was sticking out two inches beyond it. Internally, the duodenum was covered by a thick layer of greyish mucus.

The internal surface of the stomach was red and inflamed; here and there were points of ulceration; the pyloric orifice was more than usually dilated; but the degree of dilatation of the pharynx, œsophagus, cardia, and the stomach itself, was by no means remarkable. There were 32 pebbles in the great cul-de-sac of the stomach, with liquid and oily fluids; some stones were also found in the duodenum, and in some other parts of the intestinal canal; the cœcum contained five; so that the whole number found in the course of the digestive tube was 53, and they weighed altogether one pound and three ounces: the largest weighed five drachms. In form they differed considerably: there were some long and sharp, and others which approached the cubic form; but in general they did not appear to have been chosen to prevent the wounding of the digestive canal.

The liver was large and hard, and the gall-bladder contained a small quantity of fluid.

This case was published soon after its occurrence by Dr. Neret's predecessor; but as the details then given were insufficient, and Dr. N. has himself had the opportunity of examining the case, he thought it but right again to print it, and to add that which was wanting in the previous account.—*Archives Générales de Médecine*, Juillet 1839.

MEDICAL STUDENTS IN AMERICA.

University of Pennsylvania.—Four hundred and two medical students matriculated in this school the past session. The number of graduates was 158.

Transylvania University.—The number of students in the medical department of Transylvania University during the session 1838-39 was 211; and at a commencement held on the 11th March, 1839, fifty-one received the degree of doctor of medicine.

Dartmouth College.—From the catalogue of the officers and students of this college, issued in September last, it appears that the number of medical students at that time was 78.

Medical College of Georgia.—The class the past session numbered 60; and at the commencement held 2d March, 1839, twelve were graduated doctors in medicine.

Geneva College.—The number of graduates in medicine in this college was, in 1835, six; in 1836, eight; in 1837, five; in 1838, seventeen.

Louisville Medical Institute.—The catalogue of the class during the session of 1838-39 shows the number of students to have been 120.—*American Journal.*

CITRATE OF QUINA IN INTERMITTENTS.

This is recommended by Professor Beraudi, because it is equal in effect to the sulphate, in doses one-third smaller; and because it is more easily borne by the stomach, and causes less congestion in the brain.—*Bulletin de Thér.* and *Schmidt's Jahrb.*

LITERARY ANNOUNCEMENT.

We are authorized to announce that a Treatise on General Anatomy is being prepared for immediate publication by Mr. Paget, Demonstrator of Pathology, and Curator of the Museum, at St. Bartholomew's Hospital.

This treatise will be composed with a view to direct practical application in Physiology and Pathology; and in addition to the subjects usually included in works on General Anatomy, it will contain the Elements of Animal Chemistry, and the results of the extended microscopic observations in which anatomists, especially those of the German schools, have been lately engaged. It will be carefully adapted to the use of Students and Graduates in Medicine.

BOOKS RECEIVED FOR REVIEW.

The Plague and Quarantine. Remarks on some Epidemic and Endemic Diseases, &c. By John Murray, F.S.A. F.L.S. &c. 2d Edition. London, 1839. 8vo. pp. 54.

A Series of Anatomical Plates. Edited by Jones Quain, M.D. and W. J. Erasmus Wilson. Fasciculi 72 and 73, containing Division 4—Viscera, 3; and Division 4—Viscera, 4. London, 1839.

An Address to Medical and Surgical Pupils on the Studies and Duties of their Profession; to which is appended, a Case of Cæsarean Operation. By James Barlow, Surgeon, Blackburn. Blackburn, 1839. 8vo. pp. 119.

Nineteenth Annual Report of the Directors of the Dundee Royal Lunatic Asylum. Dundee, 1839. 8vo. pp. 42.

Medical Report to the Managers of the Lunatic Asylum of Aberdeen, for the year ending 30th April, 1839. Aberdeen, 1839. 8vo. pp. 16.

Observations on the Disorder of the General Health of Females called Chlorosis. By Samuel Fox, Surgeon. London, 1839. 8vo. pp. 132.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Aug.* 13, 1839.

Abscess	1	Inflammation	10
Age and Debility	14	Bowels & Stomach	1
Asthma	1	Brain	2
Childbirth	2	Lungs and Pleura	4
Consumption	39	Measles	13
Convulsions	34	Paralysis	1
Dentition	4	Small-pox	1
Dropsy	6	Spasms	1
Dropsy in the Brain	5	Tumor	1
Fever	13	Worms	1
Fever, Scarlet	8	Unknown Causes	47
Hæmorrhage	1		
Heart, diseased	1	Casualties	4
Hooping Cough	1		

Decrease of Burials, as compared with the preceding week . . . 172

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 15, 1839.

Thomas Curtois Grant, Louth, Lincolnshire.—Charles Carruthers, Holbeach, Lincolnshire.—Evan Parry, Fretower Crickhowell. — Henry Sample Howlet, London. — James Freeman, Minster, Thanet.—James E. Donlevy, Suffolk.

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

August.	THERMOMETER.	BAROMETER.
Thursday . 8	from 51 to 69	29·87 to 29·92
Friday . . 9	49 70	30·08 30·07
Saturday . 10	52 70	30·05 30·02
Sunday . . 11	53 69	29·95 30·13
Monday . . 12	54 65	30·18 30·16
Tuesday . . 13	51 67	30·11 30 02
Wednesday 14	53 65	29·95 29·80

Prevailing wind, S.W.

Except the afternoons of the 13th and 14th, generally clear; a little rain fell during the evening of the 11th.

PERIODIC METEORS.—From nine in the evening till nearly one hour after midnight of the 10th, the meteors were very numerous, though generally very small; eight of these were of more than ordinary brilliancy, and all followed by trains varying from 10 deg. to 20 deg. in length. The most remarkable fact was, that nearly all appeared to proceed in one direction—viz. from N.N.E. to S.S.W.

Rain fallen, ·075 of an inch.

CHARLES HENRY ADAMS.

NOTICES.

We have received a letter from Mr. H. W. Dewhurst, addressed "to the members of the medical profession, and the friends of literature and science in general;" and we regret to learn from it that a man who has had a complete medical education, and has united great zeal in the diffusion of knowledge to untiring industry in the pursuit of it, should be reduced to a state of destitution. Mr. Dewhurst hopes to be relieved from his present embarrassments by small donations from his professional and scientific friends, and would also wish to be employed as a literary or scientific lecturer. His address is 25, Marlborough Square, Chelsea.

We are much obliged to Mr. Henry Smith for his communication.

The letter signed "M.D. Erlangæ" will probably be made use of on some future occasion.

M. D. L.'s letter from Berlin; and

Mr. T. S. Wells's reply to Dr. Allnatt, in our next.

Mr. Fergusson's Observations on Yellow Fever, shall appear as soon as we can make room for them.

Dr. Wightman's packet has just been received.

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THE

LONDON MEDICAL GAZETTE,

BEING A

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OF

Medicine and the Collateral Sciences.

SATURDAY, AUGUST 24, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Ulceration sometimes occurs in both the bladder and prostate gland; but affections of this sort generally belong to the province of the surgeon; nor, indeed, are there any specific symptoms by which ulceration can be recognised. When, however, a sort of bloody pus is voided with the urine, we may suspect ulceration. With respect to the treatment, it must be conducted upon general principles; and if there be any means peculiar in the treatment of ulceration of the bladder, I believe it consists in injecting the bladder with a solution of chlorine, from which, in two instances, I witnessed the very best effects.

When the prostate suppurates, the pus is discharged by the urethra, and the disease for the most part terminates favourably. In some cases, however, a sort of scrofulous ulceration attacks this gland. In old people, also, the ulceration becomes extensive, with frequent abscesses, ultimately terminating in complete disorganization of the gland; but such complaints so completely fall within the province of the surgeon, that it is unnecessary to consider them at greater length.

Irritable bladder.—Irritability of the bladder sometimes exists to so great an extent as to prove extremely distressing to the patient. One consequence is a frequent desire to pass urine; but, contrary to what happens in cystitis, the quantity of urine passed at each micturition is either of the natural quantity or may exceed this. Sometimes there is a real diuresis, and the quantity greatly exceeds that of health. Such cases are frequently confounded with diabetes, but are, indeed, of a very different nature. The bladder, though in an irritable state, is not so impatient of urine as to be excited till a certain distension has taken place; but as soon as the quantity of urine attains to a certain amount, the bladder becomes impatient of further distension; there is an irresistible impulse to its evacuation.

In many instances of this sort, several articles in common use, and under ordinary circumstances producing no inconvenience, become highly stimulating to the urinary organs, and excite to an increased flow of urine. Thus tea, and especially green tea, I have known produce, in certain individuals, so immediate and so irresistible a desire of emptying the bladder, that the individual could hardly resist it for a moment. In many, too, the urine seems to acquire, under such circumstances, a peculiar acrimony, as the retention of the urine in the bladder is attended with a sort of smarting or burning pain; yet, if examined, the urine does not appear to have undergone any remarkable change of properties. I have seen, however, several instances in which persons affected with irritable bladder, and so situated as to have been forced to resist the call, have been seized with a complete retention of urine. This appears to arise from some spasmodic action of the sphincter; and the attempt to relieve the patient by the introduction of the catheter only increases the mischief.

Diagnosis.—An irritable state of bladder is a concomitant of urinary diseases, such as peculiar acrimony of the urine, mechanical irritants, as calculi, or inflammatory diseases of the bladder itself. But the affection under consideration is not referri-

ble to any one of these. In them we shall be able to discover some peculiarities of the urine to account for the phenomena, or there will be some symptoms to indicate some specific disease. In the affection to which I allude the urine is natural, and the bladder does not appear to suffer till a certain accumulation and distension have taken place. This, in fact, appears to me to be one of the principal diagnostics.

Causes.—I had an opportunity of examining the bladder in one instance of this affection. The patient had been subject to irritable bladder for some time; but, being suddenly attacked with very severe pneumonia, died; and a dissection being allowed, the bladder was examined. It presented no diseased appearance; the mucous coat, if any thing, was a little redder than natural. The immediate cause, therefore, would appear to be some peculiar irritability of the mucous lining, which, extending to the muscular coat, excites it to contraction.

The remote or exciting causes are probably of a varied character. Particular irritations seem often to induce this state. Of these, I may mention the inflammation of the mucous lining of the urethra, known as *gonorrhœa.* When gonorrhœa has been very severe, and the urethral inflammation has run very high, the bladder often remains in an irritable state for a long time after. A first or second attack, perhaps, may have only a temporary effect; but if they have been numerous, a permanently irritable bladder, if nothing worse, will certainly be the consequence.

The improper introduction of bougies for the cure of supposed gonorrhœa is another fruitful source of irritable bladder. Irritation of contiguous parts, as, for instance, hæmorrhoids, and in females uterine affections, frequently produce irritability of bladder to such an extent as to cause great inconvenience, by the frequent calls to empty the bladder.

Among the causes, also, may be mentioned, a thickening of the coats of the bladder. This condition is frequently attended with a sort of chronic enlargement of the prostate gland. In some cases of this sort, the coats of the bladder often acquire a thickness exceeding three or four times their natural substance. The thickening is probably induced by the exertion which the bladder has to make to expel the urine, which enlargement of the prostate, or some such other obstruction, may impede. In many, however, it seems to arise from diseased action in the bladder itself, as, with the thickening, the substance becomes hard and rigid; in many of which cases the disease may spread to the ureters, or even to the kidneys themselves.

When the bladder has been much thickened it may often be felt above the pubes, when there is a sense of weight in the hypogastrium, with which there is often an incontinence of urine. In such also the bladder, in its hard and thickened state, may compress the nerves and vessels in the neighbourhood to a greater or less extent, producing some very unpleasant sensations in the lower limbs, attended with great restlessness, so that the patient cannot keep quiet a single moment. In other cases there is total paralysis of the lower extremities. Generally, too, there is more or less of difficulty in passing the fæces, owing to the pressure of the bladder upon the rectum.

In some instances an irritable state of bladder is brought on by disease of the inner lining. Thus, in one case which I met with, there was a complete fold of the inner membrane, so as as to form a complete pouch, and, at the same time, a fungous excrescence was growing out from another portion*. This patient was seized with frequent desire to void the urine; but at last he became incapable of voiding any. It was supposed that he was labouring under stone in the bladder, under which circumstances I was called to visit him. On examining the urine, however, I found no reason to believe in the existence of a calculus, and this opinion was further confirmed by sounding, when no calculus could be discovered. Upon this occasion, though between sixty and seventy years of age, he recovered so far as to be able to go about as usual, and he lived one or two years, when, being again attacked, he died rather suddenly and apoplectic; but as I did not see him upon this occasion I cannot state the particulars. I was present, however, at the dissection, and witnessed the appearances above stated.

Enlargement of the prostate gland is often attended with an irritable state of bladder. In many, the gland becomes very much enlarged. A hardened or knotted state of the same organ often induces a desire of frequent micturition. In such cases the condition of the gland may be discovered by an examination through the rectum.

Diagnosis.—With respect to the diagnosis, it is evident that it is to be distinguished in different cases by different methods, or rather signs. Where the affection is purely an irritable condition of the bladder, without concomitant dis-

* The bladder, I believe, is in the Museum of the Royal College of Physicians.

ease of any of the neighbouring organs, we shall have no great derangement of the urine, and the signs of the diseases of the neighbouring or contiguous parts will be absent. But if the irritability of bladder be associated with disease of the neighbouring parts, then we shall have the signs by which these are indicated—many of which have been already treated of at sufficient length.

Treatment.—It is evident, from the history which has just been given, that this affection is sometimes purely one of the bladder alone. In such cases, we must endeavour to ascertain the state of the general health, and correct any deviations that may have arisen there. These are so various, and have been already so sufficiently dwelt on, that it is unnecessary to recapitulate them. The means immediately applicable is what we are now to consider: and, first of all, we must attend to the state of the bowels, for if they be confined, it invariably aggravates the complaint. Next we have to consider the choice of means. There is mostly associated with the complaint an irritable, or, at least, a strong tendency to an irritable state of rectum, and, therefore, the bowels must be solicited by mild rather than by powerful remedies. There is nothing answers the purpose so well as castor oil, and where this can be taken, as is mostly the case, it is the best and safest remedy. If, however, it cannot be taken, then we must have recourse to some of the aperient infusions, as rhubarb or senna, with some of the purgative tinctures, and the occasional use of enemas.

For the purpose of relieving the urgency of the complaint, we must give narcotics. The extract of colchicum with morphia I have found most effectual; and at the same time a draught, composed of the mistura amygdalæ and a few drops of the compound tincture of camphor, may be directed to be taken at proper intervals two or three times a day. We should at the same time examine the state of the urine, and correct any deviations from the natural condition. Thus, if there be any alkalescence, or, indeed, any tendency to it, such as being neutral, we should give a little of the phosphoric or the hydrochloric acid, in doses proportioned to the state of the urine, and continued until the necessary change has been effected. In the slighter cases, this, with avoiding all exciting causes, such as stimulating drinks, as tea, soda water, saline effervescing draughts, &c. is all that will be necessary. But when the disease is complicated with other affections, then we must have recourse to the means specially adapted to the particular condition. In hæmorrhoids, for instance, if much inflamed, we must apply leeches to the anus, and, in addition to the urinary treatment, we must adopt such means as are specially suited to the hæmorrhoidal affection. In the case of the uterus being affected, we must endeavour to restore it to its healthy condition. Where the prostate seems engaged, leeches frequently applied to the perineum seem to hold out the fairest prospect.

It has been already stated that in such cases there is often an inability to pass the urine in consequence of spasm, excited by the irritation of the bladder: hence, the urine is retained, and the bladder becomes most painfully distended. It is too often the practice to endeavour to relieve this state of things by the introduction of catheters: the attempt almost always proves abortive, and only increases the mischief by increasing the irritation. I remember the case of a baker, who was subject to attacks of this sort, and attempts were usually made to evacuate the bladder by means of the catheter, which generally failed. To render the introduction more easy, the patient was bled, and then put into a warm bath, when the urine would flow, and the bladder be gradually emptied. I was called to him upon one of these occasions. The urine had been retained for several hours; the bladder was distended, presenting a tumor the size of a large orange in the abdomen above the pubes. Several attempts had been made to introduce a catheter, but without success. The pain and straining were very urgent, and the distress of the patient was very great. In this emergency I directed leeches to the perineum, and a draught, containing one grain of hydrochlorate of morphia, with thirty minims of the wine of colchicum, and a drachm of the tincture of hyoscyamus, to be given every ten minutes, till relief was obtained; the abdomen at the same time was fomented with hot flannels. As the bowels had been rather confined, they were emptied by a laxative enema. In about five minutes after taking the third draught, the patient suddenly exclaimed that he felt something give way, and, on examination, the urine was found flowing in a full free steam, and continued till the bladder was completely emptied, when the morphia began to take effect, and he fell into a sound sleep, in which he remained for several hours, and on waking said he felt tolerably well. This person, by attending to the directions given to him, continued, while I had an opportunity of seeing him, tolerably well. Whenever he felt any tendency to his complaint, a dose of opium and colchicum relieved him

completely; and he took the sesquichloride of iron with good effect.

Spasm.—Spasm of the bladder may arise from various causes, especially the presence of a stone in the organ. Frequently, too, it arises from diseases of the kidney, uterus, or rectum; and in such cases it often appears to recur periodically. According to some, there is an idiopathic spasm of the bladder, to which old people are sometimes particularly predisposed, while others believe it wholly the result of sympathy with neighbouring parts.

Spasm, in many of its symptoms, resembles inflammation, with which it may be readily confounded. But one particular point of difference is the sympathetic fever which accompanies inflammation, but does not attend spasm. The pain, too, serves to assist in the diagnosis. In inflammation the pain is incessant, while in spasm it comes on in paroxysms: in cystitis, it is throbbing, lancinating, and with a sense of burning, but in spasm it is dragging, oppressive, or twisting, and somewhat resembling labour-pains. We may also derive some assistance from the circumstances of the patient: in the young, robust, and sanguine temperaments, inflammation is the more probable disease; in the weak, nervous, and irritable habits of body, spasm. The urine, also, in inflammation, is red and high coloured, and comes away in very small quantity; but in spasm, unless when the paroxysm is on, it is pale, abundant, watery, and of low specific gravity. It may, however, arise from acrid urine, abscesses of the kidney, organic disease of the bladder itself, retention of urine from gout and various other affections, and it often terminates in the affection we shall consider next.

Paralysis.—This is a state in which the bladder is incapable of expelling the urine, in consequence of the want of excitability in the muscular coat, whence it will not contract. It generally occurs in old age. It is indicated by a sense of uneasiness, sometimes of pain, about the neck of the bladder. There is also a sense of tension and oppression, nor is there a feeling of relief from passing off the urine. The bladder too often acquires an enormous size, from the habitual distension to which it is subjected. The urine dribbles away from the patient involuntarily, and, if not relieved, the patient dies, with all the symptoms of suppression of urine. In some, even a rupture of the bladder has taken place, and the patient has died suddenly. The disease, though it may be complicated with some others, cannot readily be mistaken. It arises from the causes previously stated—over-distension of the bladder, paralysing its muscular coat—and in old persons, from the partial evacuation of the bladder, by which a considerable portion is left behind, which, undergoing decomposition, becomes acrid, exciting other affections, ultimately terminating in paralysis.

Treatment.—In spasm arising from, or accompanied with, inflammatory symptoms, the antiphlogistic treatment should be adopted; the warm bath afterwards, with opiates, antispasmodics, and anodyne enemas, are effectual measures. In gouty habits, especially if it appear connected with a suppression of the fit, we should apply sinapisms to the gouty joints, so as to produce some inflammation; and we may at the same time exhibit colchicum internally. When there appears to be spasm of the neck of the bladder, giving rise to a species of retention, the tinctura ferri sesquichloridi, in doses of from ten to thirty minims, every ten or fifteen minutes, will very frequently give relief. Indeed, I have often seen this remedy produce surprising effects.

Paralysis.—In paralysis, the first thing to be done is to empty the bladder by the catheter, lest too great an accumulation take place, because, so long as unusual distension is kept up, the muscular coat will not resume its proper tone. If it be connected with an exhausted state of system, as occurs in young and middle-aged subjects after fevers and other debilitating causes, tonics, with the use of the cold bath, will prove serviceable.

Paralysis, however, may depend upon some affection of the spine, or disease of the spinal marrow. In such cases issues or setons in the back, blisters to the sacrum, and the internal use of stimulants, as tincture of catharides, galvanism, electricity, &c. are the most effectual remedies. In one or two instances I have exhibited strychnia to one or two aged persons affected with paralysis of the bladder and a dribbling away of the urine. The affection seemed connected with some disease of the spinal marrow. Strychnia was given in the dose of one-eighth of a grain, gradually increased to one-half of a grain, three times a day. In two it proved successful; but in one, a very old subject, though it appeared to have some effect at first, it produced no permanent benefit. In all cases accumulation of urine in the bladder should be prevented by frequent resort to the use of the catheter.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S. Sorbon.

INFLAMMATORY AFFECTIONS OF THE CORNEA.

Keratitis.—Vascularity of the Sclerotica; non-existence of Sclerotitis.

We are now about to examine a peculiarly interesting class of diseases, which had never been properly studied or described until within the last few years. Until the commencement of the present century, surgical writers, confounding all the inflammatory affections of the eye and its appendages under the name of ophthalmia, made no attempt to ascertain the precise seat of the disease. Far from throwing any light on the nature of the inflammation, they rendered it still more obscure, by adding to the general term ophthalmia the name of various specific diseases, although the inflammatory affections of the eye are not in reality of a specific nature, as I hope satisfactorily to prove to you in the course of these lectures. It is to the prevalence of these doctrines—to the confusion which they engendered—that we may attribute the slight progress which ophthalmology has hitherto made. Pinel and Bichat were among the first to perceive that they have no real foundation. By their labours they proved, in the most satisfactory manner, that in the eye, as in all other regions of the body, the influence which each tissue exercises on the morbid affections of which it is the seat, is such as to render it imperative that they should be studied separately. It is because surgeons were formerly either ignorant of this fundamental principle of pathology, or otherwise neglected to apply it, that we look in vain in their writings for a description of the inflammatory affections of the cornea, considered apart from those of the other membranes of the eyes.

Diseases of the cornea are of extremely frequent occurrence, as will be seen by the perusal of the various statistical accounts which have been published since the attention of practitioners has been directed to the subject. No membrane of the eye, indeed, appears so frequently to be the seat of morbid action. Thus Saunders says, that out of 1942 cases admitted into his infirmary, there were 659 affections of the cornea; more than a third. Out of 250 cases of eye disease which I treated during the two years I was at the hospital of La Pitié, there were 125 cases of disease of the cornea; exactly one-half. Nor can we be surprised at the frequency of these affections, when we reflect on the superficial situation of the cornea, and on the important functions it has to fulfil—functions which are of such a nature that the slightest alteration in its physical properties constitute at once a serious malady. Is it not, therefore, a singular feature in the history of medical science, that keratitis has only been specially studied since the commencement of the present century, and that even since that epoch many ophthalmologists of talent have not examined the disease with the attention which it deserves?

I shall not, in these lectures, treat of all the morbid alterations which may take place in the cornea, but merely study the inflammatory affections of that membrane. Setting aside, therefore, wounds, contusions, tumors, herniæ, &c., I shall forthwith commence the description of keratitis, acute and chronic; and subsequently, as consequences of that affection, I shall describe softening of the cornea, its gangrene, as also the vegetations, abscesses, ulcerations, perforations, and specks, which it so often presents.

Keratitis.

Keratitis is the name under which inflammation of the cornea is generally designated. If we peruse attentively the works of those who have written on ophthalmology, we shall find that several surgeons, in the last century, had a faint view, as it were, of the true nature of the disease, but none described it. Thus Maître Jan, Boerhaave, Deshayes, Gendron, Janin, and several others, merely mentioned the existence of such a malady. It is to Vetch that we owe, in 1807, the first description of keratitis; but he was much surpassed, shortly after, by Mr. Wardrop, whose attention had been for some time directed to this affection. Mr. Wardrop rendered a real service to ophthalmological science by his account of inflammation of the cornea, which I shall take as the basis of what I am about to say; and since that time, keratitis has been admitted into all nosological classifications. Since then, also, other ophthalmologists have written on the subject, but in a much more general manner, and their description of the disease is much inferior to that of Mr. Wardrop. This being the case, it is singular that M. Hauffbauer (De Corneâ, ejusque Morbis, &c. Berlin, 1820) should have been looked upon as the first observer of keratitis. M. Mirault,

who called the attention of the French medical public to this disease in 1823, although he mentions Saunders and Mr. Travers, does not even allude to Mr. Wardrop. Indeed, many symptoms described by Mr. Wardrop, have been repeatedly brought forward as new.

Keratitis may be either acute or chronic, diffuse or circumscribed, general or partial. It may also be external, interstitial, or deep seated, according as the inflammation attacks the superficial layers of the cornea, the tissue of the cornea itself, or its internal surface. This division, introduced by Mr. Wardrop, has been criticized by some as too minute, and more theoretical than practical. The objection, however, is groundless, for the three forms I have just named may really be met with separately; indeed many of you have repeatedly seen them in my wards. The former and the latter are, it is true, generally combined, the one with conjunctivitis, the other with iritis; but this complication does not do away with the utility of a division which bears directly on the prognosis and on the treatment of the disease. I intend to examine separately each of these forms of keratitis; but before I enter upon such an examination, I must enumerate the causes capable of producing the disease, and also describe the symptoms considered in a general point of view, with which I think it necessary that you should become acquainted as soon as possible. You will, no doubt, soon perceive that many of these symptoms are generally attributed to rheumatic or to scrofulous ophthalmia, to iritis, to choroiditis, &c.

Causes.—Keratitis is, as you have already seen, a very common disease, accompanying nearly all the other inflammatory affections of the eye. The causes which may give rise to it are exceedingly numerous, and may be divided into immediate or local and predisposing.

Under the head of immediate causes we may class wounds, blows, burns, foreign bodies brought into contact with the cornea; indeed, every species of external violence, as also various operations practised on the eye. It is thus we see the point of the needle, used in the operation for cataract by couching, wounding the posterior surface of that membrane, occasion inflammation of the membrane. To these causes we may add the existence of any disease of the eyelids or of any other part of the eye; the reflection of the sun in warm countries; the introduction of pus, of virulent matter, or of any other impure fluid between the eyelids.

Exposure of the head or of the body to rain or to damp air, and a sudden change from a warm to a cold atmosphere, have been placed among the causes which are more especially considered to produce what has been called rheumatic keratitis. But this is a form of ophthalmia which, in my opinion, does not exist; and I hope, in a subsequent lecture, to prove fully that my ideas on this subject are correct. These causes may, undoubtedly, give rise to keratitis, but they may also give rise to nearly every other form of malady. We can only look upon them as general causes of disease.

The predisposing causes of keratitis are not well known. In some instances there appears to exist a peculiar predisposition to the affection, independent of hygienic circumstances and constitutional peculiarities, which are, however, generally considered to exercise great influence over the production of the disease. Although, therefore, it is frequently met with in the poorer classes of society—among those who are exposed to the vicissitudes of the atmosphere, whose food is unwholesome and insufficient—you must not suppose that it is only under these circumstances that keratitis makes its appearance. You will see it attack those who live wholesomely, and who are in perfect health: you will meet with it in every age, temperament, and constitution; in the young and in the old—in the lymphatic, the nervous, the sanguineous—in the weak and the robust. It has been said that children are most frequently affected with this malady. Inflammatory affections of the eye are certainly more frequent among them, generally speaking, than among adults, but I cannot say whether the remark applies to keratitis.

Some professions may be considered as predisposing causes. Thus, the reflection of light to which blacksmiths, locksmiths, &c. are exposed, the dust, the corpuscles which float in the air in places where cotton or wool are worked, must often give rise to inflammatory affections of the external tunics of the eye. Watchmakers and jewellers, who make use of magnifying glasses, are also often attacked by this disease.

Many authors assert that climate and season exercise great influence over the frequency of keratitis, and that, consequently, it is much more prevalent in some countries than in others. With respect to seasons, their assertion appears in some degree correct, for although we meet with it in every period of the year, it is certainly more frequent in summer and in winter than in spring and in autumn. I also believe that climate has more or less influence over the disease; but it is extremely difficult to

ascertain how far this is the case, as keratitis is not described in other countries under the name by which it is known here. Dr. Mackenzie, in his work on the Pathology of the Eye, does not describe simple keratitis—a fact which rather surprises me. He speaks of rheumatic corneitis, and of scrofulous ophthalmia, but it is difficult to say whether, by these terms, he really means the disease I am now describing. I have, however, heard practitioners say, that they have seen keratitis on the other side of the Channel, and that it was there called rheumatic or scrofulous ophthalmia. I am therefore warranted in concluding that keratitis is as common a disease in London as in Paris.

Symptoms.—When the cornea is inflamed the symptoms are either anatomical or physiological. The anatomical symptoms are those which are supplied by the vascularity of the sclerotica, and by the coloration of the cornea. We will examine them with care, as they will enable you, if properly understood, to recognise keratitis whenever it presents itself to your observation.

Vascularity of the Sclerotica.—Non-existence of Sclerotitis.

The vascular appearance which the sclerotica presents in keratitis is one of the most important features of the disease, and differs in many respects from that of the conjunctiva. When the latter membrane is inflamed it offers numerous vessels of a bluish kind, approaching nearer to the colour of venous than to that of arterial blood, which anastamose freely with one another, and thus constitute a moveable vascular net-work. The vascularity of the sclerotica, on the contrary, is constituted by exceedingly minute capillary vessels, which persons, unaccustomed to the observation of eye-diseases, would at first with difficulty distinguish. Their colour is not always the same: with some persons they are of a vivid red; with others, especially in the first stage of the disease, they are of a pale carmine colour. These vessels advance in a parallel manner without visibly anastomosing with one another, and form a kind of radiated vascular zone round the cornea. They seem deeply imbedded in the tissue of the sclerotica, and on arriving at a short distance from the cornea cease to be visible. They do not all disappear in the same manner; some, leaving the sclerotica, seem to continue their course in the conjunctiva; others appear to re-enter the eye; whilst others remain in the sclerotica. You will easily understand this distribution of the vessels which constitute the vascular zone I am describing, if you remember what has been already said regarding the distribution of the arteries of the eye. Near the cornea, the vascularity assumes the appearance of a narrow band or ring, which may be complete or incomplete, regular or irregular. This circular band advances about half a line on the cornea, in the same manner as the rim of a watch advances over a watch-glass. I cannot say whether it adheres or not to the cornea, as I have never had the courage to ascertain the fact by attempting to introduce a foreign body between them. I am inclined to think it is a fold formed by the injected vessels of the sclerotica. However we may account for its formation, it cannot be confounded with chemosis, which we have seen accompanying inflammation of the conjunctiva. It is merely a thin, narrow, membranous band, neither red nor tumefied, presenting, indeed, none of the characters peculiar to chemosis. In some cases, the membranous band does not exist; the vessels which constitute the vascularity pass on to the cornea, and may be traced, when it retains its transparency, under the form of exceedingly minute filaments, until they terminate about a quarter of a line, or half a line, from its circumference. Sometimes we find neither vascular band nor minute vessels extending into the tissue of the cornea, but a grey circle, about a quarter of a line in width, which either entirely surrounds the cornea, or merely borders it opposite the inner and outer angle of the eye. This is what some authors have improperly called the arthritic circle; it may be assimilated to the senile circle in the healthy eye.

The vascularity of the sclerotica does not only differ from that of the conjunctiva by the distribution of its vessels, but there are also other characters which may serve to distinguish them. Thus the injection of the sclerotica diminishes as we recede from the cornea, that of the conjunctiva on the contrary increases. The width of the vascular zone of the sclerotica, although it varies according to the acuity of the inflammation, rarely exceeds two or three lines; whereas the redness of the conjunctiva is, generally speaking, universal. On pressing the inflamed conjunctiva, and drawing it slightly aside, through the medium of the eyelids, you will find that it is extremely moveable, and that the pressure, expelling the blood from the vessels, renders it much paler. This is not the case with the vessels of the sclerotica: they remain immoveable; no change takes place in their relation to one another, or to the cornea; nor does their colour undergo the least alteration.

Such are the characters by which the

vascularity of the sclerotica may be recognized. The interpretation which I give to this phenomenon is very different to that which is generally adopted by ophthalmologists. I consider it as indicating the presence of keratitis or iritis, whilst they look upon it as symptomatic either of a specific inflammation or of sclerotitis. Thus in the work of Dr. Mackenzie—one of the most able writers on ophthalmology of the present day—the vascular zone of the sclerotica is described as the characteristic indication of sclerotitis, a disease the very existence of which I consider improbable. As I wish to prove to you that the opinions I profess are correct, I shall take this opportunity to lay before you the reasons which have induced me to question the existence of a disease so universally recognized and described.

Real sclerotitis is, in my opinion, an extremely rare disease, if even it has ever been really observed. I do not mean to deny the possibility of the sclerotica becoming inflamed; I am far from pretending to assign a limit to inflammation; but I am firmly convinced that the vascular zone, as also the other symptoms which are described by authors as indicating the presence of sclerotitis, are merely the result of an inflammatory affection of the cornea or of the iris. This opinion may at first appear paradoxical; I hope, however, soon to place it in a more favourable light. Let us analyse with care the symptoms which authors attribute to this malady; we shall then see whether the lesion of some other membrane of the eye might not equally well account for their presence — whether, indeed, some of these symptoms are not altogether inapplicable to the affection to which they are referred. We must also, in pursuing this investigation, take into consideration the anatomical texture of the sclerotica, and the nature of the inflammatory affections which attack similar tissues in other parts of the body. We shall thus be able to judge how far the German ophthalmologists are right in giving to this supposed affection the name of rheumatic ophthalmia: this they have done from preconceived theoretical notions. Rheumatism attacks fibrous tissues; and the sclerotica being fibrous, they have concluded that the inflammation of its tissue, which they suppose to be indicated by the vascular zone it so often presents, is of an arthritic nature. Even Dr. Mackenzie, however, although under the influence of the school of Beer, is obliged to admit that he has often met with this symptom in patients who had never been affected with rheumatism in any shape; but we will, for the moment, lay aside all theoretical ideas, in order to submit the facts on which the existence of sclerotitis is founded to an accurate analysis.

The first question which presents itself to us is, whether vascularity of the sclerotica may be attributed to any other cause than to inflammation of that membrane? To this I shall answer decidedly that it may; that it is quite as rational to attribute this vascularity to keratitis or iritis, as to inflammation of the sclerotica; and in this I am sure you will agree with me, if you remember what I have said respecting the distribution of the vessels of the eye. When the cornea or the iris are inflamed, their vessels become injected; and owing to the numerous anastomoses which exist between the vascular system of these organs and that of the sclerotica, the vessels of the latter membrane also become turgid. The redness of the sclerotica is not, therefore, to be attributed to inflammation, but to the injection of the vessels which exist in its tissue. If, indeed, you examine the eye very attentively, you will find that the sclerotica remains perfectly white between the vessels. An experiment which I have often made satisfactorily proves that vascularity of the sclerotica is not dependent on inflammation of that organ. I have repeatedly endeavoured, by wounding the sclerotica, to give rise to the vascular zone, which is generally looked upon as the symptom of its inflammation, but always without success. A speck, an ecchymosis, or a slight purulent affection, were the only consequences of the lesion. When, on the contrary, I have wounded the cornea, I have generally produced the vascularity of the sclerotica. I do not, however, consider these arguments alone of sufficient weight to warrant our denying the existence of sclerotitis, as we must also allow that if the tunica albuginea were to become inflamed, that inflammation would be as likely to give rise to vascularity as either keratitis or iritis. We will therefore rest satisfied for the present with the knowledge that this phenomenon may be explained in a satisfactory manner, without our being obliged to suppose an inflammatory affection of the sclerotica.

But if we continue our analysis of the symptoms, we shall find that there are two which cannot be allowed to depend on an affection of this membrane—I allude to intolerance of light, and to effusion of tears. These symptoms are very generally ascribed to the imaginary disease we are now examining, although a few moments' reflection must convince you that they

could not possibly be occasioned by such an affection. The sclerotica is merely an organ of protection, and has nothing to do with the visual functions, nor has it any connexion with the secretion of tears. I shall not, however, enter at present into any details on the subject, as I shall have to treat of these phenomena in a future lecture; I will then prove clearly to you that they are characteristics of keratitis, retinitis, or iritis.

The examination of the symptoms which sclerotitis is said to present is evidently far from conclusive with regard to its existence. Let us now see if theory will be more favourable to the general opinion.

If the symptoms which authors ascribe to sclerotitis really belong to an inflammatory affection of that membrane, it must be considered one of the most common of the various forms of ophthalmia; indeed, those of you who follow my practice attentively, will remember having seen these symptoms in at least half the patients we have received in the wards for diseases of the eye this year. Now when we reflect on the anatomical structure of the sclerotica—when we consider that it is a tissue which, in other parts of the body, is so rarely inflamed, that some pathologists entertain doubts as to its ever being the seat of inflammatory action—how can we possibly reconcile our minds to the extreme frequency of sclerotitis? Again, the inflammation of a fibro-cellular membrane no more remains confined to one spot, limited to a circular portion of the organ, than that of a mucous or a serous membrane, but spreads in every direction. The vascular zone of the sclerotica, on the contrary, never extends to the posterior portion of the membrane; it merely encircles the cornea, gradually disappearing as it recedes from it. You are also, no doubt, well aware that when tissues analogous to the sclerotica have been inflamed, there generally remains some trace of the inflammation, such as thickening, &c. Has any similar lesion ever been seen on the sclerotica when once the ocular inflammation is entirely subdued?

You see, then, that both observation and reasoning are equally contrary to the existence of sclerotitis; I therefore feel myself perfectly justified in excluding it from the list of ophthalmiæ, until, at least, its existence shall have been demonstrated in a much more satisfactory manner than has hitherto been done.

CLINICAL OBSERVATIONS
ON
THE USE OF THE AIR-DOUCHE IN THE DIAGNOSIS AND TREATMENT
OF
DISEASES OF THE EAR.

By T. Wharton Jones, Esq.

[*For the London Medical Gazette.*]

No. IV.

In the preceding cases, the air-douche served both as a means of diagnosis and as a means of treatment. In the three cases next to be related it served only to inform me somewhat of the state of the middle ear, more especially of the perviousness or imperviousness of the Eustachian tubes, and in the case of imperviousness to remove the obstruction. It did not produce any improvement in the hearing such as to warrant a perseverance in its use.

Case V.—*Exploration of the Ears by the Air-douche, showing Obstruction of the Eustachian Tubes—complete on one side, incomplete on the other. Hearing not improved by the removal of the obstruction.*

Mr. J. J., aged about 82, grandfather of the subject of Case II.

Right ear.—Dull of hearing for a long time, though pretty useful till within a few years. Has had in the ear a succession of small gatherings or abscesses. The auditory passage is dry, and is occasionally affected with a troublesome heat, followed by the exfoliation of a thin waxy scale. A week ago, on awaking in the morning, could not hear any thing. This extreme degree of deafness is abated now, he being able to hear the human voice, if clear.

Left ear.—Has been useless for thirty years at least. In driving over some newly-gravelled road in a phaeton, lately, thought he heard the noise of the wheels with the left ear, and found that it was undoubtedly so; and on getting home, heard the clock, though in a very low soft tone, as if the bell-hammer were muffled. The left ear is now, however, as insensible as before.

1st August, 1838.—Auditory passages wide; the right presents a sufficiently healthy appearance; the left, dry and scaly.

Does not hear the watch with the right ear, even on close application.

Applied the air-douche on the right side, and found the Eustachian tube quite impervious. On sending in a stream again, thought once or twice I heard the entrance of a bubble or two of air. After the air-douche, heard the watch when applied so as merely to touch the ear.

2d.—Hears the watch in the same way as yesterday.

Applied the air-douche again to the right ear. The air now entered at first with a gurgling, then with a howling or whistling sound, as if it penetrated only in a small stream.

After the air-douche, the watch was heard when applied to the ear, but the patient thought, not so distinctly as before.

Friday, 3d.—Introduced the catheter into the left Eustachian tube; and, on blowing with the mouth, found the air enter with a gurgling sound. A stream of air from the air-press was then sent in, which I heard enter with considerable gurgling.

No improvement in hearing followed this application of the air-douche to the left ear.

Saturday, 4th.—Does not hear the watch to-day with the right ear. Applied the air-douche to the right ear, which entered as before.

After the air-douche, heard the watch in the same way as on the 2d.

Case VI.—*Exploratory Treatment, by which obstruction of both Eustachian tubes was ascertained, but the removal of which effected no change in the hearing.*

Saturday, 13th Oct. 1838.—Miss K. L. Has been very dull of hearing for about twenty years, and supposes the cause to have been cold caught in crossing from Liverpool to Cheshire.

Has suffered many things of many physicians without benefit. At present hears the watch with the right ear at the distance of five inches, with the left only on application. Has noises in the ears. Hears better in a cold dry air than in warm weather. Hears the chirping of the cricket, even to a painful degree, when a sound ear cannot perceive it.

External auditory passages and membranæ tympani quite natural, only that on the left side there is not a due secretion of cerumen.

Applied the air-douche, and found both Eustachian tubes quite impervious.

Monday, 15th.—Applied the air-douche to the right ear, and heard at last some bubbles making their way into the tympanum with a gurgling sound.

Tuesday, 16th.—Hearing distance of right ear six inches.

Applied the air-douche to the left ear. The air did not at first penetrate, but by and by I heard a few bubbles working their way through the obstruction; and at last the air entered in a small jet, with a sound partly whistling, partly gurgling, compared by Mr. Owen, who was present, to the sound produced by blowing one's nose.

Wednesday, 17th.—No improvement in the hearing of the left ear, and with the right scarcely hears at such a distance as yesterday.

Applied the air-douche to the right ear. The air did not at first penetrate, but after a slight gurgling it entered at last in a small, shrill, whistling stream.

Thursday, 18th.—No improvement in hearing.

Applied the air-douche to the left ear. The air now enters freely, and with a rushing sound.

Friday, 19th.—No improvement.

Applied the air-douche to the right ear. The air entered in the same way as on Wednesday.

Case VII.—*Exploration by the Air-douche, showing perviousness of the Eustachian tube in the ear examined.*

October 1838.—Dr. M. N., a retired physician, hears a loud-ticking wooden clock at the distance of four yards with the right ear; a watch he hears only at the distance of two or three inches. Hears the watch with the left ear only on application.

Applied the air-douche to the left ear. The air entered the cavity of the tympanum with a rushing sound. No improvement in hearing was observed to take place.

Friday, 7th December.—In consultation with Dr. Bennett, at Dr. M. N.'s request.

Applied the air-douche to the left ear again to-day. The air entered as before, and the Doctor could afterwards hear his watch at the distance of about an inch and a half.

A contraction in the right nostril

prevented the introduction of a catheter into the right Eustachian tube.

Remarks. — Case I. showed that simple obstruction of the Eustachian tube is not of itself sufficient to cause a very great degree of deafness. In Case V., just related, the duller ear was that in which the Eustachian tube was pervious; in the other ear the tube was obstructed, but the removal of the obstruction produced little or no change. In Case VI. both Eustachian tubes were quite impervious; but the restoration of the access of air to the tympanic cavities was not followed by any amelioration of the deafness. In Case VII. the Eustachian tube of the ear examined was quite free. These facts are sufficient to expose the incorrectness of the principle alleged in favour of the operations of perforating the mastoid process and membrana tympani, even supposing the condition said to require one or other of those operations, viz. closure of the Eustachian tube, had been always unequivocally ascertained to exist.

The pathology of the ear not being sufficiently known, a direct diagnosis cannot be drawn from the exploratory treatment above detailed. It can only be said, *per exclusionem*, that the proximate cause of the deafness did not lie in the external parts of the ear, nor in the Eustachian tubes, nor in any accumulation of mucus in the tympanic cavities. Was it owing to thickening or other change in the texture of the membrane lining the tympanic cavities, and, consequently, of the membranes closing the fenestræ? or was it owing to some change in the labyrinth in general? or to affection of the auditory nerves in particular?

It would be of the greatest importance if these questions could be satisfactorily answered, because the state of the ears under consideration appears to be, more or less, that of a large proportion of habitually deaf persons, and because we should then be more likely to ascertain the signs diagnostical of its commencement, and thus be able to adopt early and efficient treatment on general principles. An inflammatory origin is scarcely to be doubted. This subject will be further considered in another communication.

As to the prognosis in the cases under consideration, the absence of any benefit from the air-douche did not encourage to its further use; and this, combined with the long standing of the cases, equally forbade the hope of obtaining advantage from any application made directly to the membrane lining the tympanic cavities. General treatment was out of the question: in Case VI., indeed, it had been already tried in vain, and even to the extent of implicating the health.

The following case, one not of such long standing as the above, presented, during the exploratory treatment, the same signs to the listening ear, but the improvement which supervened was such as to encourage further attempts, either by the air-douche, or by the injection of ethereal vapours, according as events in the course of treatment might have indicated.

The patient, however, finding his hearing improved as much as his business required, had no inclination to undergo further treatment.

Case VIII.—*Exploratory Treatment followed by some improvement of hearing.*

Thursday, 21st February, 1839.—O. P., a house-porter, aged 46. Was affected with a severe cold a fortnight ago. Within this last week deafness came on. Has been subject to attacks of deafness when affected with cold.

Hearing distance of the right ear, five inches; of the left ear, one inch.

Nothing in the external auditory passages to account for the deafness.

Applied the air-douche to the right ear. The air entered in a small whistling stream.

No improvement immediately after the air-douche.

Friday, 22d.—Right ear, seven inches.

Applied the air-douche to the left ear. The air entered in a small irregular stream, with a whistling, screaming sound.

No improvement observable immediately after.

Monday, 25th.—Right ear, two feet and a half; left ear, eight inches.

Left ear treated. Air entered readily and freely, with a whistling and rushing sound.

No further treatment submitted to.

Remarks.—This patient must have been affected with more or less deafness for a long time. As, comparatively, a very small degree of hearing is sufficient

for all ordinary purposes of life, and as the affection of the structures of the ear giving rise to deafness is in many cases unattended by pain, it is allowed to go on for a long time without the patient's notice being particularly attracted to it: hence one cause of the great intractability of diseases of the ear.

Having discussed those cases in which the exploration points only to an unfavourable prognosis, I now come to consider those in which, from the circumstances of the youth of the patient, the short standing of the complaint, or, it may be, some small improvement effected by the air-douche, as in Case VIII., just related, the expression of a less unfavourable prognosis is justifiable. In such cases, what experience of any value we possess indicates, in addition to appropriate general treatment, a direct medication of the middle ear. If the principle on which I have in the previous communications endeavoured to explain the sometimes beneficial action of the vapours of acetic ether injected into the tympanum be not freely admitted, then I hold the use of the remedy to be as yet entirely empirical. In addition to its effects in Case III., the pathology of which was pretty evident, and those to be related in the continuation of Case II., the nature of which we can also in some degree trace, I may here mention, that in cases in which, without there being actual obstruction of the Eustachian tubes, the air, nevertheless, does not enter freely, the application of the ethereal vapours is followed by a greater freedom to the entrance of the air. This, I think, is similar to the relief obtained, as first pointed out by Dr. Bootcher, of Copenhagen, and more recently, though in an exaggerated manner, perhaps, by M. Raspail—a relief I have myself experienced from the action of the vapour of camphor applied to the nostrils when obstructed from catarrh. I do not mean to say that nervous deafness does not occur, but if by nervous deafness is meant some disease of the auditory nerve at its terminating expansion in the labyrinth, at its origin from the brain or in its course, in short, an affection analogous to what we call amaurosis in the eye, then it may reasonably be doubted if the injection of the vapours of acetic ether into the tympanum ever benefited a case of nervous deafness. Exposing the eyes to ethereal or other stimulating vapours is not unfrequently prescribed along with other remedies in cases of amaurosis, but with how much advantage?

CASES OF ASTHENIA.

By Melbourne B. Gallwey, Esq.
Assistant Surgeon, Royal Artillery.

[Concluded from p. 770.]

The case, of which I am now about to give a brief detail, occurred in the Royal Ordnance Hospital at Woolwich, in October last; and although some considerable time has now elapsed since the period of its occurrence, in consequence of my absence from the country on foreign service; yet so strongly impressed on my mind is every circumstance connected with its history, that what the notes I have preserved of the case do not supply, my memory, I doubt not, will fill up.

Thomas Bullcock, æt. 20, a gunner in the Royal Artillery, and a delicate-looking man, of a leuco-lymphatic habit, was admitted into the hospital on the 9th of October, 1838, with some tenderness about the false ribs on the right side, unattended by fever, but characterized by a general air of languor and debility; pulse soft, weak, and frequent; tongue clean but exsanguineous; skin cool and somewhat rough.

For these symptoms he was ordered by the surgeon under whose care he was placed—

Haust. Emetic. statim. Pulv. Ipecac. comp. gr. x. vespere.

10th.—Emetic operated well, but brought off nothing unusual in appearance from the stomach. The pain and tenderness continuing unabated—

Cucurbitulæ cruentæ parti affectæ applicentur. Habeat æger Mist.* Diaphor. Aperient. ʒiss. ter in dies.

11th.—Much relieved by the cupping; passed a tolerable night.

Continuentur Mistura ut heri.

12th.—Pain in the side returned and aggravated; pulse 80 and feeble; no febrile movement; passed a restless night.

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* This medicine is composed of Magnes. Sulph. oz. j.; Antim. Potass. Tart. gr. j.; Aquæ, oz. viij.

Empl. Lyttæ lateri dolenti applicetur. Continuentur Mist. ut antea. Habeat Pulv. Ipecac. comp. gr. x. vespere.

14th.—The pain was relieved by the blister, and has continued so since the last report. Bowels kept open by the aperient medicine.

Continuentur Mist. et Pulv. Ipecac. comp.

15th.—Passed a good night. Pain has not increased; some dryness and heat of skin to-day; great prostration of strength and dejection of mind.

Continuentur Mistura. Hirudines vj. lateri dextro. To have beef-tea.

18th.—No material change in the symptoms since the report of the 15th. The pain, however, has returned with its original force, accompanied by some febrile movement, but the debility and dejection are excessive. Ordered by the surgeon—

Venæsectio. Omittantur Mist. Diaphor. Aper.

℞ Hyd. Chloridi, gr. j.; Pulv. Opii, gr. ¼. Ft. pil. j. Habeat unam bis in dies. Beef-tea to be continued.

19th.—The patient bore the blood-letting so ill, that I had scarcely taken four ounces when he fainted; blood, however, slightly buffed, exceedingly pale, and impoverished in quality; red particles scarcely perceptible; expresses relief from the bleeding; pulse 80, feeble, and small; skin moist.

Continuentur Pilulæ ut heri.

21st.—Pain much diminished; extreme weakness continued.

Continuentur Pilulæ Hydr. Chloridi.

24th.—Has continued in the same state since the last report; very slight tenderness now remains in the site of the original affection of the side; lies flat on his back, complains of no pain, and the only prominent symptoms which now attract attention are those of extreme exhaustion. Gums slightly affected by the mercury.

Omittantur Pilulæ. Ordered sago and wine instead of beef-tea.

Sept. 6th.—No species of improvement or alteration in the patient's symptoms since the 24th ult. Says he feels no pain or uneasiness, and is rather comfortable than otherwise; sighs at every twelfth or fifteenth inspiration and says he is sensible of his heart beating now, which he had not observed before. Some infusion of quassia was ordered him on the 1st, and a mutton chop a day or two before, which, however, though continued daily, he has scarcely been able to touch. Face presents a deadly pallor, with a peculiar leaden hue; features shrunk; eye dull, and surrounded by a dark areola. On the whole, if one might suspect organic mischief to be going on in this case, his appearance rather indicates abdominal disease than aught else; but, on the most careful examination of the abdomen, no fulness, no tenderness, is detected. The stools are pale, but otherwise natural, and require to be solicited by medicine.

Omittantur Infus. Quassiæ.

℞ Quinæ Disulphatis, gr. vj.; Infus. Rosæ comp. ℥iv. Misce. Habeat tertiam partem ter in dies.

9th.—Complains of severe diaphoresis in the morning; bowels confined; feels no pain.

The gentleman who had hitherto superintended the treatment of this case being himself taken ill, the patient was placed under another surgeon, who desired the quinine to be omitted, and ordered the following:—

℞ Creosoti, ♏v.; Mist. Acaciæ, ℥iij.; Aquæ Cinnamomi, ℥iiiss. Misce. Sumat æger tertiam partem ter in dies. Olei Ricini, ℥iij. statim.

13th.—Patient says the creosote does not disagree with him. No change, however, for the better. Continues to perspire profusely towards the morning; rests badly at night; complains for the first time of pain in the right iliac region; no perceptible fulness there; appetite stagnant.

Habeat Olei Ricini, ℥ss. statim. Continuentur Creosoton ut antea.

20th.—Still no change for the better; face and surface of whole body exsanguineous to an extreme degree; tongue of a chlorotic appearance both in colour and density; pulse exceedingly feeble; bowels confined; appetite beginning to improve; enjoys more rest at night; no return of pain in the right hypochondriac region; the uneasiness in the right iliac has also left him.

Continuentur Creosoton.

℞ Pil. Hydr. gr. v.; Pulv. Rhei, ℈j. ft. pil. ij. Habeat j. mane nocteque.

On the following day creosote was exchanged for—

℞ Quinæ Disulphatis, gr. v.; Ferri Sulphatis, gr. iv.; Infus. Quassiæ, ʒiii. ss.; Syrupi Aurantii, ʒiij.; Acidi Sulph. Dil. ɱxxv.

Misce. Habeat æger tertiam partem ter indies.

The diaphoresis continuing, sponging the surface with warm water has been employed with some benefit.

27th.—On the 24th this patient was manifestly improving under the use of iron and quinine; and the amendment now is remarkable, considering the short time they have as yet been made trial of. His face is less bloodless, and his general aspect approaches more to a state of health.

Oct. 2d.—Steady and progressive improvement; is entirely free from pain or uneasiness; all the functions are in healthy action; appetite becoming voracious. Says he gains strength perceptibly every day.

Continuentur Mist.

14th.—Since the last report of this case, the patient has so far recovered as to be enabled to walk about the ward. The chlorotic aspect of his face has given way to a light rosy tint, and the roundness and fulness of health have taken the place of the former falling-in of the features. Is now placed on full diet, with a pint of porter daily, which seem perceptibly to invigorate his health.

27th.—This patient has continued to convalesce since the 14th inst. and, at his own urgent solicitations, has returned to day to his duty.

There are some points of considerable practical interest in the history of the preceding case. The subject of it, constitutionally a delicate man, had been but a short time in the regiment, and, like many young recruits, who enter the service in a moment of temporary distress or of unnatural excitement, had pined for some time to return to his home, and been further depressed, physically as well as morally, by the severity with which the drill falls at first on the recruit. Hence we see a sufficient explanation of the causes which may first have undermined his health. Depression of mind and body reacting on one another—"the sword wearing out the scabbard," and the rust of the scabbard feeding again on the sword. Hence arose a general debility, depression of spirits, and decline of the appetite—symptoms he acknowledged to have been under the influence of for a considerable period antecedent to his admission into hospital. Here we probably have an explanation of the predisposing cause of the subsequent state of suffering. With the languor of the appetite (arising, we may suppose, from a state of exhaustion of the nervous and muscular powers of the stomach,) we should probably find co-existent an accumulation of the intestinal secretions, from a similar condition of the exhausted energy of that canal, and a depraved state or deficient quantity of the bile, as another consequence of the depression of the sanguineous system. Imperfect or impoverished chyle would be elaborated, and, finally, from the latter so depraved and lifeless a kind of blood, as sufficient in itself to account for the symptoms of anæmia which arose subsequently. Here, then, we behold a state of the system in every respect the opposite to that in which we might look for excessive action; although in such a condition I am aware we occasionally meet with local determinations of blood, especially in the brain or its membranes. All the symptoms in this case, from the first, strongly betokened, in my mind, a state of great depression and exhaustion of the nervous and arterial systems. I should have attached no more importance to the pain and tenderness in the right side than to a similar symptom we meet with in chlorotic girls, which Dr. Marshall Hall believes to be dependent on a loaded or abnormal condition of the colon in its transit by the seat of pain. Again, there was no increased action of the pulse—no febrile movement accompanying it. But what more than all should have induced us to look further for an explanation of this symptom than to a state of inflammation, is, that the expected relief did not follow upon the administration of the remedy calculated to subdue such a condition of the part; nay, that when repeated, the same result not only followed again, but the symptoms for which it was prescribed became aggravated under the treatment.

"This is a circumstance," says Dr. Marshall Hall, in alluding to topical pains in the course of diseases of debi-

lity, "which ought always to excite the attention, if not the alarm, of the physician." "It is certainly," says the same physician, "the passion of the present day to consider all painful affections to be inflammatory. But I am persuaded there is great danger in this opinion, and that it has frequently led to the adoption of measures which have issued in the sinking of the patient." Again, in another place, "I have seen many, very many, cases of protracted indisposition, which have entirely ensued from the misapplied and unnecessary use of the lancet; and I would insist upon this point the more earnestly, because I believe it will generally be found, in such cases, not only that the disease was mistaken, but that other remedies, which ought to have been administered with or without the blood-letting, had been omitted; and it is incumbent on me to observe, that protracted indisposition is not the only bad effect of misapplied blood-letting, but that thatremedy has, as well as the neglect of it when necessary, been attended with fatal consequences*." The topical means employed in the present case, for the relief of the pain and tenderness, having failed of success, the patient was subjected to general bleeding. The fate of this experiment I have already mentioned. Scarcely had I opened a vein when the patient fell back and fainted; a circumstance which every sound and practical man of the present day regards as an eloquent argument in favour of the necessity of an opposite mode of treatment, or, at least, of there being a contra-indication for the use of the former. It is true that the pain and tenderness, for which blood-letting was here prescribed, were to a degree overcome by the remedy; and this must really be considered a very unfortunate arrangement in the economy of our system, for it entices men to renew the same treatment; so, also, in cases of excessive pain, throbbing of the vessels of the head, delirium, &c., when the offspring of an exhausted state of the brain, we find these symptoms give way to and are greatly relieved by blood-letting; but they are aggravated soon after in a tenfold degree, and the patient hurried on, peradventure, to the fatal goal, to which before he had been quietly and leisurely travelling.

I look, indeed, upon the employment of general bleeding, in the case under our notice, to have been a mistake of the most serious nature, and one which, if repeated, might probably have disabled nature effectually from making further head against the struggle.

The next point of interest in this case which occurs to my mind, is the immediate and remarkable improvement effected by the introduction of iron into the system. We have seen how ineffectual was the adoption of every preceding plan of treatment. The creosote might have been calculated to urge on the feeble circulation, but it could have no power in enriching the vital fluid, by which alone the system could have been recruited and supported, and restored to its natural condition. Iron, indeed, I look upon to have been the indication in the treatment of this case, from the very outset of the affection. Iron and porter would have cured the disease at once, and removed every local symptom that in such cases is wont to stalk forth as a fresh disease; whilst, I believe, it would as certainly have continued to resist every other remedy in the Pharmacopœia.

On the whole, I look upon this affection to have been a genuine case of chlorosis in the male—a disease which every now and then presents itself in practice, to remind us of the possibility of its occurrence in our own as well as the opposite sex, although we must admit that such cases are sufficiently rare. I was at first disposed to consider it an example of that affection designated and described by Dr. Marshall Hall as "disorder of the general health," acute at first, then lapsing into the chronic state, which he so forcibly pictures of that disorder. But on a careful review of every symptom and every circumstance attending its history and progress, and more particularly from the absence of that peculiar condition of the tongue and fauces, which he deems almost indispensable to characterise the above disease, I have no doubt of the case being one of genuine chlorosis, as described in books to be met with occasionally in the male, although it is the only instance I have met with myself.

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* Marshall Hall on some Diseases of Females, p. 112.

LANGENBECK'S SURGICAL PRACTICE AT GÖTTINGEN.

To the Editor of the Medical Gazette.

Sir,

Having had occasion to spend three or four weeks at Göttingen, I made a few observations there, amounting, perhaps, to little more than gossip, but which are at the service of your readers. Most of them will have heard of Langenbeck. On June 26th last, I paid a visit to his clinical hospital, and saw him for the first time. He is somewhat above the middle height, and has a fine muscular development, especially of the arm and leg, to which he probably owes much of his dexterity. His crown is bald, hair inclining to grey, nose Roman, and whiskers worn across the cheek. He came into the theatre to perform two operations, dressed in a short linen jacket, reaching not quite to the hips, and with sleeves terminating above the elbow; the forearm was bare, and he had an oil-cloth apron tied round him. The first case was an *amputation above the knee.* The patient was a youth, with scrofulous disease of the knee-joint. The preparations for the operation were exceedingly simple. Two basins with water and sponges on the floor; a few ligatures in the hand of one assistant, a saw, and three or four pairs of Amussat's and the common forceps, in the hands of others; a case of scalpels, and a case containing two amputating knives, on a little side-table. The simplicity of the apparatus contrasted strongly with the pails and saw-dust, and glittering array of knives and scissars, and scalpels in extended file, flanked by tourniquets, bandages, strips of plaster, piles of rag, &c. witnessed in some English hospitals. The knife which Langenbeck uses is supposed to be peculiar to him, and in consequence has received his name; but its prototype may be seen in the hands of any butcher in England, being a short knife, rounded at the point. The blade and handle are each about four inches long; the former about 5-8ths in breadth. The artery being compressed by an assistant, Langenbeck took the knife just described in his hand, stepped back two steps—stood in a theatrical attitude, with the knife elevated above his head; then darted upon his patient, and made a deep gash on the outer part of the lower third of the thigh, cutting half away through to the bone; the knife describing a slight curve downwards and backwards; another application of the knife, slanting upwards, reached the bone. The same method was followed on the opposite side. The knife was then made to describe one or two turns round the bone; was changed for the saw; the muscles were retracted by the hand, and in about one minute from the commencement of the operation the limb was severed. The artery was sufficiently compressed to prevent a jet, but not enough to secure the patient from the loss of more blood than he ought to have suffered, considering his age and great debility. After tying the arteries, the thigh was rolled, and the face of the stump slightly covered with a piece of rag. The patient was then taken to his bed, and rag, wet with cold water, applied. In an hour or two, the lips of the flap were united by four or five sutures. Next day I found the roller removed, and nothing upon the stump except a strip of wet paper along the line of union. This mode of water-dressing has been practised by Professor Langenbeck for about thirty years. It is not so good as Liston's, because there is nothing to prevent the paper drying. To remedy this, a painter's brush and a basin of water stand close to the patient's bed, that the paper may be moistened from time to time.

Extirpation of part of the tongue.—Next came a female, aged about 40, with scirrhous disease of the right side of the tongue. Two stout ligatures were first passed through the tongue, by which the assistant was enabled to retain it firmly out of the mouth, and the diseased part was then cut away by means of a common scalpel. Two or three arteries were twisted and tied. This was an out-patient, and when I left was well.

Chronic abscess treated by a seton.—Next came a boy with a tumor in the upper part of the thigh. It was a doubtful case, and there was a long inquisition upon it. It is well known, that in the German cliniques there is a student in charge of each patient, who is examined by the professor, respecting the case, in the presence of the class. The questions put are those suggested by the

anatomical and physiological relations of the part affected; and the professor rectifies, explains, or illustrates, the answers: in doing which, Langenbeck mingles a little wit, a good deal of theatrical gesticulation, and a good deal of extraneous matter, with much useful information. The wit, gesticulation, and foreign matter, are far from being useless, as they serve to impress the case upon the memory of the students, by exciting and keeping up their attention. Indeed, nothing is more dull and soporiferous than one of these cliniques conducted with legitimate professional gravity. Langenbeck is generally censured for his declamatory and showy manner, in which he strongly resembles Lisfranc; but he is in the right.

There were some symptoms which indicated a foregone conclusion in this case, although so much was said and done before the treatment was entered upon. The assistant-surgeon at last brought into view a formidable looking instrument, which I had observed lurking in his hand at the time the case came into the theatre. This was a long needle, not unlike a packing needle with an eye at the sharp end, but twice as thick, and three times as long, measuring, I think, not less than fifteen inches. This unwieldy instrument baffled even Langenbeck's dexterity, as, after he had thrust it into the lower end of the abscess, it was only after repeated mishaps that he was enabled to guide it aright, and bring out the point at the place where he wished. A seton thread was then put through the eye, and the needle drawn back. In a week or two the thread had cut through nearly the whole of the intervening skin, leaving two large ulcers.

Fungus hæmatodes of the os humeri: amputation at the shoulder-joint.—This patient came into the hospital on July 1st, and the limb was amputated the next day. A large irregular tumor extended from the elbow to nearly the shoulder, marked with large blue veins, and having bosses upon it of various degrees of hardness. The man was about 30 years old, with a sallow complexion, and uneasy anxious expression of countenance; the disease had commenced three years before. The preparations for the operation were exactly the same as for amputation of the leg. The patient was seated on a low chair, with his side to the operator. So soon as all was ready, Langenbeck stepped into the area, took his knife, and approached the patient. An assistant covered his eyes. The operator made a deep gash in the outer part of the shoulder to the head of the bone; then withdrawing the knife, it was curved round the shoulder, so that its point rested in the lower end of the incision. From this point the second incision proceeded upwards, to terminate in the upper end of the first. There was another turn or two of the knife in the joint, and in about half a minute Langenbeck threw the amputated limb on the floor. In the case of amputation of the thigh, there was a combination of the flap and circular method; but in this case there was no flap, and consequently we had a round surface, with the glenoid cavity not far from the centre. The subclavian artery was effectually compressed, and the arteries rapidly tied, those which had retracted being dissected out by a small scalpel. The patient was treated like the boy. Next morning I found the lips of the wound united by numerous sutures. The thread of the sutures in common use is three-thread sewing cotton. On the eighth day the patient had pain in the head, fever, &c. and was bled. The professor remarked, that sometimes after excision of the humerus the patient becomes insensible, the breathing stertorous, and there are all the symptoms of apoplexy. These were relieved by bleeding; and although a few days after, slight secondary hæmorrhage recurred, in three weeks from the operation I found the ligature was removed from the axillary artery, and the wound in a fair way for healing.

Extirpation of the uterus.—After the preceding amputation was finished, a preparation of the female organs of generation, without a uterus, was exhibited, the vagina terminating in a *cul de sac*. This preparation had been taken from the body of a female, who consulted Langenbeck twenty-four years ago for complete prolapsus of the uterus, when he extirpated it. As accoucheurs and others had expressed their doubts that the operation had been really performed, because they fancied it impossible, the display of the preparation was a genuine triumph, and was exhibited in the manner peculiar to the professor. Dr. Langenbeck, the nephew—a most indefatigable pathologist,

already well known as a microscopic observer, through his observations on the structure of the retina, and who is now engaged in a beautiful series of drawings, exhibiting cancerous degenerations and their microscopic structure—this Dr. Langenbeck seemed to think the operation unique. This it certainly is not. I believe a case was published not long ago in England, in which a prolapsed uterus was amputated by a tinker, or some such fellow, with a razor. It is worthy of remark, that it is this class of cases in which the operation has been most successful.

An odd case.—On the day following, amongst other instructive cases, was introduced a man who had a tumor on the margin of the right axilla, nearly in the tract of the artery. There was a whisper of aneurism amongst the inexperienced students, and even the Professor exclaimed "*Ach*" at the first glance; but his tact quickly corrected the first impression, and his son, without further examination, was directed to lay it freely open. After a little dissection, out came a piece of glass! It was of an elongated form, measuring about 1¼ inch in length. About three years ago the patient had (he said) fallen upon a bottle, or some glass, and received a wound near the elbow; further he knew not.

Compound fracture of the skull. Has the brain sensation?—A man, aged about 40, fell from a considerable height, and was brought to the hospital insensible, with brain and blood flowing from his ears. A large portion of the left parietal bone was found shattered and depressed, which was removed, and the petrous portion of the temporal was also shattered. Dr. Langenbeck assured me, that whenever he touched the exposed brain the man gave evidence of sensation.

Suspected stricture of the rectum; exposure of the person.—An old woman (about 70), with cancer of the left mamma, and erysipelas of the corresponding arm, complained of symptoms which induced Professor Langenbeck to introduce a bougie into the rectum. In the performance of this operation the patient's person was completely exposed to the whole class. This practice is much less defensible than that with the speculum. A bougie can be introduced into the rectum without the assistance of the sight; but if we use the speculum at all, we must use our eyes and have a good light too; and if students are to be taught the use of the instrument, they also must look, and closely.

Hydrocele.—Three cases were operated on while I stayed, a boy and two adults; in all, a portion of the tunica vaginalis was excised. This plan is also followed here.

Cancerous (?) mammæ.—Two were operated on by the usual method.

Dislocated humerus into axilla.—The patient, an old woman, was placed on a low chair, and a stout student mounted a table, and pulled her arm horizontally and upwards. Immense force was exerted unsuccessfully, and I began to fear for the patient's arm. The stout student at last yielded his place to the Professor, who quickly succeeded in the reduction.

Amputation below the knee.—The patient was a female, about 30, with diseased ankle joint. The usual simple apparatus was employed, with the addition of a short, double-edged, dagger-shaped knife. The limb was amputated at the "place of election." The flap was formed from the calf.

Tumor on the throat.—A youth came into the theatre with a hard tumor over the left ala of the thyroid cartilage. Langenbeck, the son, supposing the contents to be solid, cut freely upon it, and out popped a mass like calf's-foot jelly. The usual tedious dissection followed.

I fear I have already trespassed too much on your pages, but would say, that in addition to the preceding, there were three or four cases of hare-lip (one double), a dozen cases at least of cataract, cases of entropium, ophthalmiæ of every kind, &c. The actual cautery is frequently used. The following were the cases in the ward for males:—1. Sarcoma of the antrum—a boy, aged about 12, already once operated on; his face horribly distorted and scarred. 2. Fracture of the thigh and laceration of the groin and perineum. 3. Compound fracture of the leg. 4. Incarcerated hernia. 5. Dropsy of the knee, two cases. 6. Amputation, two cases. 7. Diseased knee and hip, a case of each. 9. Chronic abscess of hip. 10. Hydrocele, two cases. 11. Trichiasis.

The medical clinique, the museum, botanic garden, professors' lectures, library, &c. would furnish ample mate-

rials for further remarks; but these I will defer. I should think an English medical student, not pressed for time, might spend six months at Göttingen with great advantage. The surgical clinique is probably not surpassed by any in Germany; certainly not, so far as my observations go, by the clinique here.

W. D. L.

Berlin, 7th August, 1839.

P.S.—In the excellent collection of skulls made by Professor Blumenbach, and in his house at Göttingen, there is not an example of those found in the curious catacombs in a part of South America, the name of which I forget. Perhaps you would give it? There is one figured in the last edition of Dr. Prichard's Physical History of Mankind. I mention this to add, that I believe no one could give a greater gratification to the venerable Professor, now in his 87th or 88th year, than by sending him one of these skulls. There is one like them in his museum, but it was found near Vienna.

INFLUENCE OF THE SYMPATHETIC NERVES ON POISONING.

IN REPLY TO DR. ALLNATT.

To the Editor of the Medical Gazette.

SIR,

OWING to some accidental delay on the part of a bookseller, I did not see the observations of Dr. Allnatt on my letter from Dublin until yesterday. I have now to trouble you with a few remarks in reply.

My object is to show that some substances exert their poisonous action through the agency of the nervous system alone, and that the cerebro-spinal system has but little influence over this action. If this be so, the inference is obvious, even without any direct experiment—they must act through the medium of the ganglionic system. This appears still more evident when we reflect that those tissues most susceptible to the action of poisons are those which receive the largest supply of ganglionic nerves. And should my experiments be verified by such a course as that recommended by Dr. Christison, no fact in physiology could be better established.

Although Müller advocates the opposite opinion, I think the following considerations will prove that some poisons act altogether independent of absorption:—

1. The extraordinary rapidity of their action, as in the case of hydrocyanic acid. An objection has been raised to this argument, on the ground that hydrocyanic acid has been found in the blood after death; but this proves nothing, till it can be shown that this acid cannot reach the blood by endosmose; or that the minute absorbents do not retain their organic vitality sufficiently long after the characteristic effects of the poison have been produced, and animal life extinguished, to carry the poison into the blood. Again, it is urged that the rapidity of their absorption will account for the rapidity of their action. Mayer detected ferrocyanuret of potassium in the blood from two to five minutes after its injection into the lungs. I do not remember any proof of more speedy absorption; yet Dr. Christison found hydrocyanic killed in a very few seconds—in fact so instantaneously as almost to exclude the possibility of its acting through the medium of the blood.

2. Because symptoms precisely similar to those of poisoning may be produced by blows on the epigastrium. Here any other than nervous agency is out of the question, and it is illogical to refer similar effects to dissimilar causes.

3. Orfila found that alcohol acts more rapidly when taken into the stomach than when introduced into the cellular tissue. Now, as absorption is more rapid from cellular tissue than from mucous membrane, how can this be explained on the theory of universal absorption?

4. By diluting mineral acids, their absorption is facilitated, but their injurious influence is destroyed.

In answer to the opinion of Sir Benjamin Brodie, that hydrocyanic acid acts on the brain through the medium of the nerves of sensation, I would urge the fact that it is inert when applied to the brain itself or to the spinal cord; that when inserted into the leg of an animal, its activity is not diminished by dividing the spinal marrow; and that it will not act when a part to which it has been applied is connected to the body by spinal nerves alone.

Dr. Allnatt has mentioned some interesting experiments made by Dr. Krimer,

proving "that when the arteries and veins of a part are tied, the nerves being left entire, and the acid introduced into a wound, it does not act, but takes effect the instant the ligatures are removed from the blood-vessels." He adds, that either on the hypothesis of Brodie or Krimer the cause of the retardation of death in my experiment is obscure. Certainly it is. But just admit that the sympathetic nerves have an important influence over the action of poisons, and it is plain enough. We can then also readily explain Krimer's results, for by tying *all* the vessels, the communication between the ramifications on their surface and the ganglionic centres would be cut off almost as completely as by dividing the nerves.

No one can be less desirous than myself to jump to any conclusion before my experiments have been repeated by other and abler hands. This I thought sufficiently evident from my letter; and will only add, that after carefully considering the *reply* of Dr. Allnatt, I am unable to discover any point in it at all opposed to my statements or opinions, and remain, sir,

Your obliged and constant reader,
THOMAS S. WELLS.

Barnsley, Aug. 14, 1839.

NOTE ON DR. MARTIN BARRY'S REPLY TO MR. WHARTON JONES.

BY T. WHARTON JONES, ESQ.

[*For the London Medical Gazette.*]

THE following passage occurs in Dr. Barry's "Observations in reply to T. Wharton Jones's Strictures," contained in last week's number of the MEDICAL GAZETTE:—

"But there is one point upon which T. Wharton Jones seems to set up 'pretensions to novelty, originality, and correctness,' on which I must be permitted to say a few words.

"In 1835 this author presented to the Royal Society an account of the germinal vesicle discovered by him in the mammiferous ovum; adding, in a postscript in reference to this discovery, 'it would appear that M. Coste has anticipated me.' The Memoir of T. Wharton Jones not having been printed in the Philosophical Transactions, the author published it at full length in the MEDICAL GAZETTE, in 1838 (No. 18, p. 680), with the same postscript in which he had yielded the priority of discovery to Coste. It is remarkable, however, that T. Wharton Jones had not in the meantime heard that in 1834 a thesis was published at Breslau, in which ten quarto pages were devoted to a description of the germinal vesicle as existing in the ovum of all orders of the class mammalia, and remarks connected with it. This thesis was by Bernhardt*, but the drawings are by Valentin, who seems to have been the discoverer of the vesicle in Germany. This thesis was particularly referred to in a translation I gave from the German of Valentin, in the Edinburgh Medical and Surgical Journal, No. 127, 1836. But farther, *in the year* 1834 R. Wagner sent to Müller's 'Archiv' a particular description of the germinal *spot*, discovered by him, within the germinal vesicle, a structure which he considered constant in the class mammalia—so extended had been his observations. This discovery by Wagner was mentioned in the Edinburgh Medical and Surgical Journal, No. 126, 1836, above alluded to, and it was at the same time stated in that journal, on the authority of Professor Johann Müller, that the account had been sent by Wagner to the 'Archiv' in 1834. Upon these points T. Wharton Jones is silent."

If Dr. Barry will refer again to Mr. Wharton Jones's memoir on the Ova of the Mammifera before Impregnation, as it is printed in the MEDICAL GAZETTE (No. 18, p. 680), he will see by several foot notes, signed "ED. GAZ.," that it purports to be inserted there on the authority of the Editor, and not on that of Mr. Wharton Jones. Moreover, if Dr. B. will turn to page 692 of the *same number*, he will read, under the head of "Analyses and Notices of Books," the following remarks:—

"*On the first Changes in the Ova of the Mammifera, in consequence of Impregnation, and on the Mode of*

* Symbolæ ad Ovi Mammalium historiam ante prægnationem.

† Mr. W. J. mentioned in his communication of the 20th July, p. 594, that a figure of Bernhardt copied by Dr. Barry (plate viii. fig. 72) represents the spot on the side of the germinal vesicle, whilst the body of the vesicle is concealed by the yelk grains. It is remarkable that Valentin should have passed over in his description what in fact he represents in his delineation.—T. W. J.

Origin of the Chorion. By THOMAS WHARTON JONES, Esq.

"Such is the title of a paper in the Philosophical Transactions for 1837, Part II. The subject is one of so much interest, that we shall copy the paper into our journal; but as about two years and a half ago another paper, by the same gentleman, was communicated to the Royal Society, on the Ova of the Mammifera *before impregnation*, we have given it first, for the better understanding of the other (see present No. page 680). This we the more readily do, as in the paper communicated two years and a half ago, which was only read, not published, is detailed a discovery of great importance in reference to the physiology of generation. We mean the discovery which Mr. Wharton Jones made in the human unimpregnated ovum, as well as in that of other mammifera, of a vesicle analagous to that first described by Professor Purkinje, of Breslau, in the immature eggs of birds and other ovipera. It appears that some time before Mr. W. J. made his discovery, the existence of such a vesicle was asserted in France by M. Coste, of Paris, from some observations he had made on the ova of the rabbit; but an examination of his work will show that he rather vaguely indicated than unequivocally demonstrated the existence of the vesicle. This indication of it, however, by M. Coste, was an inducement to Professors Purkinje and Valentin to recommence their investigations on the subject. The result was a very elaborate description of the vesicle by Valentin, though still incomplete, for he had overlooked one important point, the spot on the side of the vesicle. This deficiency in Valentin's description was afterwards supplied by Wagner.

"Hence, it appears that, like many other discoveries in science, the germinal vesicle of the mammiferous ovum was discovered about the same time in this country and on the continent. But it will be seen from Mr. Jones's Memoir, that he had investigated the subject so fully and successfully as to be able to give such a description of it as is only to be drawn from the united labours of Coste, Valentin, and Wagner.

"A comparison of dates will determine the mere matter of priority. Mr. Wharton Jones's observations were made in the beginning of September 1834, and his memoir read before the Royal Society, 18th June, 1835.

"We may mention that MM. Coste and Valentin received the great prizes of the French Institute for their communications on the subject."

Mr. Wharton Jones having merely communicated to the editor of the MEDICAL GAZETTE a copy of his paper as it was read to the Royal Society, the editor alone was responsible for the manner in which it was printed; therefore Dr. Barry's insinuations as to want of candour towards Valentin and Wagner, contained in the passage above quoted from his last week's communication, had they been justified by facts, must have become applicable to the editor; but the passage now reprinted from the number of the MEDICAL GAZETTE in which Mr. W. J.'s first memoir appeared, is a complete refutation of the charge.

Addendum to Mr. Wharton Jones's "Observations on the Ova of the Mammifera," &c. in No. 43, p. 592.

In his recent communication on the Ova of the Mammifera, Mr. Wh. Jones mentioned (p. 596-7) that the authority of Professor Rudolph Wagner was quoted by Dr. Barry, in support of the existence of a vitellary membrane in the mammiferous ovum, different from the thick transparent envelope which Mr. W. J. contends is the part analogous to the vitellary membrane of the bird's egg. Mr. W. J. could not then give any quotation bearing on the point from Professor Wagner's Memoir, but having since seen the Professor's more recently published work on Physiology (Erste Abtheilung, Spezielle Geschichte der Lebensprozesse, Leipzig 1838), Mr. W. J. finds the following (p. 36, § 20): "In general the yelk-ball lies in close contact with the chorion *, but in very mature ova there may be perceived, though it must be admitted rarely, a distinct space between the inner wall of the chorion and the yelk-ball, which is somewhat farther enlarged by the imbibition of water. We then see that the yelk-ball is bounded by an envelope, which appears a membranous external granular layer (proligerous stratum ? † perhaps vitellary membrane?)"

The remarks Mr. W. J. has already made on Professor Baer's mode of

* Vitellary membrane.—T. W. J.
† Keimschicht, *stratum proligerum.*

accounting for a vitellary membrane, he considers applicable to the above, and is not without astonishment that Professor Wagner should be undecided whether the external layer of granules of the yelk constitutes the proligerous stratum or vitellary membrane.

August 20, 1839.

VARICOSE CAPILLARIES.

DR. HAKE'S STATEMENT.

To the Editor of the Medical Gazette.

Sir,

In the pursuit of knowledge there are two great principles to be observed: the first and most important being the dignity which invests the subject; the second, the personal interests of parties occupied in the pursuit. It is of the nature of the latter to affect us too closely; but in the controversy on which I am now entered, I trust I may ever be mindful of the former, whatever may be the character of the language used towards me by an opponent.

For my own part I place but little value on any discovery beyond its usefulness to the public, and am by no means ambitious of being called a discoverer for the mere sake of the title. It would even give me greater satisfaction to resign any fact that I might have arrived at, than be suspected of so low a vice as plagiarism. But when I put you in possession of the principal circumstances which have transpired in the matter at issue between a distinguished anatomist and myself, I am convinced you will agree with me that I could not have selected a more candid line of conduct than that which I have chosen.

About six weeks ago, I passed the latter part of an evening at the house of Mr. Kiernan, Mr. Powell being present. At a very late hour, and after we had examined a variety of objects, Mr. Kiernan, without comment, placed under the microscope a preparation of intestine, and invited Mr. Powell and myself to inspect it. I looked at it for some minutes, and during that time made various remarks, and, among others, one was to the effect that it contained what I had reason to think was varicose capillaries, which was certainly not met in the affirmative by Mr. Kiernan, but by the remark that one day I should know "all about it," and a repetition of the usual expression that he possessed "some extremely curious things," which he had never shown to any one. My curiosity being excited, I asked him to produce some of these curiosities, not at all expecting him to comply, and added, that he need not be afraid of my betraying him. He answered that he might, perhaps, one day. From that time to the present I have never seen one of his preparations.

Before stating to you the history of my humble researches, and the manner in which they were treated by Mr. Kiernan, to whom they were unreservedly submitted, I shall allude to the statements made by that gentleman in your journal, and examine the nature of his assertions.

As respects my having "repeatedly seen the greater number of his preparations illustrative of the anatomy of cancer," I can only say that I was once at that gentleman's house by invitation, when about half a dozen bottles were handed from his shelves for my inspection; that I have been present once or twice when the same scene has been repeated for the gratification of others; but that instead of these preparations, beautiful as they are, being illustrative of the anatomy of cancer, they contain nothing that may not be seen daily in the anatomical museums of the metropolis.

Mr. Kiernan asserts that "he had told me that he had other preparations illustrative of the mode of development of every description of growth;" that I "had repeatedly asked him to show me those preparations, and to communicate his views to me, promising him that I would not divulge any thing he might communicate to me."

Each of these sentences by itself is in a great degree true: Mr. Kiernan had told me that he possessed such preparations; I did ask him, but not repeatedly, to show me those preparations, and did say that I would not take any unfair advantage; but in the sentence which follows, viz., "that having no reason to doubt my honour, he complied with my request," the truth is entirely distorted; he asserts that in consequence of such request he produced his preparation, whereas the request was made by me subsequently to my seeing that preparation, as stated in my narrative. That Mr. Kiernan "fully explained" to me

that preparation of "varicose capillaries" or even used, or assented to that term when employed by me, I unhesitatingly deny. The real fact is, that he was obstinately taciturn, and that whatever remarks were made came from me, with the exception of such as alluded to the beauty of the object, or the success of the injection.

The assertions which follow in Mr. Kiernan's letter relate to the subject of my researches; I will therefore pass over them for the present, and examine his letter to Mr. Powell, as well as the reply.

The only important part of that letter is contained in this sentence—"Dr. Hake now claims what I then showed him as a discovery of his own, and is about to make it public." In reply to this accusation, I beg distinctly to affirm that I never made such claim, or had such intention; but, on the contrary, at my last meeting with Mr. Kiernan, and before he wrote to Mr. Powell, I told him that I would publicly admit having seen his "preparation of intestine" before having entered on my present investigation.

Since then I have seen this disease in the intestine, but I fairly admit having first seen it in Mr. Kiernan's preparation: not that it was new to me, for I had previously seen aneurismal* capillaries in the spleen.

Mr. Powell, in his reply to Mr. Kiernan's letter, says, "during the time (which was about an hour and a half) that Dr. Hake was examining it (the preparation) with the microscope, you pointed out several different parts to him, one of which you said was disease in its most incipient state. Dr. Hake said he could sit and look at it all night, and wondered you had not published it. He thought if you did not do so, it was likely some one would do it before you; and he added, he would be as silent as the grave."

I have already stated how long I looked at this preparation, which, although it showed no principle, but only a disease of capillaries in a particular structure, I admired as a microscopic object, but expressed no more admiration than I had done on examining the circulation in an aquatic plant, which I had looked at for a much longer time that evening, and which Mr. Powell was absorbed in while Mr. Kiernan and myself were viewing the intestine. But Mr. Kiernan did not point out "different parts," one of which was illustrative of disease in its "incipient state," as Mr. Powell intends to imply: he only moved the preparation to show the parts which were injected. He said that he had preparations illustrative of the different stages of disease, which led me to remark that I wondered he did not publish them, for the Germans and French were hard at work, and, if there was any thing to be found out, they would succeed. To this Mr. Kiernan replied, that no one living could find out what he had done—it was utterly impossible: to which I rejoined, that the human mind was sufficiently alike in all men, and that one could observe as well as another, if he had but the industry to work; and these were the sentiments which I repeated to Mr. Powell while walking homewards in company with that optician.

Some weeks after this the diseased liver of a rabbit was sent to me by my poulterer, who had been in the habit of supplying me with various things for dissection. This liver was covered with what appeared abscesses. I examined the purulent matter which the cavities contained, and found that it consisted principally of ovate bodies—a form of pus which I had never before seen. Being satisfied, from this examination, that the disease was of more than usual interest, I took the liver to Mr. Kiernan, and stated to him that a disease had fallen under my observation, which probably would especially interest him, the liver being his subject, and requested him to accept it as an addition to his collection. He replied, that he was acquainted with the nature of the disease—he had seen it in the mouse and other animals—that, in fact, it consisted of abscesses. I continued, that I should like to show him the pus of these abscesses, as it presented remarkable characters. After a time we placed a small quantity of the fluid under the microscope. The first glance at it arrested his entire attention. "This," he said, "is wonderful; this is a discovery. I advise you by all means to work it out. I dare say, he said, I have some of it in my collection, but when I was collecting these fluids, I had not a microscope. You should call on the person who sent you the disease, and find out

* It may be suggested that I am indebted to Mr. Gerrard's letter for this expression; I therefore state that my work, in which this term occurs, was printed, and in the hands of Mr. Liston, before that letter appeared.

whether he has any more of the rabbits." I then proposed examining the fluid of the gall-bladder, which was done, and the same corpuscules were found in it, which led me to remark, that the disease must be in the ducts. To this he replied, that if I advanced that opinion, he should say that the abscesses had ulcerated into the ducts, and so effected a passage for the matter into the gall-bladder. On my leaving his house, Mr. Kiernan said that he thought the discovery a very fortunate one for me, and that he should call in the course of a few days, and see how I was getting on. He said the sub-editor of the Lancet was his friend, and he could insure me the means of publication in that journal.

On reaching my own house, I dissected the liver, and found that the disease was in the ducts. Two days afterwards I called on Mr. Kiernan, and, not finding him at home, wrote that I had some diseased ducts to shew him, which I was sure would interest him. He was prevented, however, from calling on me for several days, and when, at length, he paid me a visit, his first question was how I had got on with the disease. I informed him that what we had thought abscesses had proved to be enlarged ducts, and I shewed him my drawings, which represented their structure, while I explained to him that it consisted entirely of varicose capillaries, (the very expression I had formerly used at his house,) which were derived from the portal vein and hepatic artery. Upon this he exclaimed, that he knew "all about it"—that, in fact, he "had done it all himself." I was surprised at such an assertion after he had declared on the occasion mentioned above that the disease was abscess. I reasoned with him to that effect, but he evaded my arguments, and said that I could not have understood the disease without having first seen his preparation of intestine. In this I differed with him, but assured him, that when I published the paper on which I was then engaged, I intended to state distinctly that he had shown me his preparation of intestine previous to my researches on the ducts. He replied, that "the less I said about him the better." I said that I did not choose to publish without mentioning that preparation; to which he replied, "If you do, I shall contradict you." He then said that he thought that in describing the structure of the ducts I might very well confine myself to stating that I found them "highly vascular," as he had actually used the term "varicose capillaries" in his paper. Unwilling to deceive the public in so palpable a manner, in a matter of science, I declined acting on his suggestion.

I must not omit to allude to a statement which at this time Mr. Kiernan made respecting a gentleman who he said had seen all his preparations, and had threatened to divulge his secret. "I have shewn them," he said "to no one but him, and I do not believe that he could have understood them, not being a medical man."

The preceding is a faithful account of what has passed. With respect to the sentences which Mr. Kiernan has dexterously applied to his own purposes, viz.—"He has now the audacity to claim what I then communicated to him as a discovery of his own, founding his claim on the fact of his having 'worked during several hours for several days, and rediscovered' what he calls my 'secret;' admitting, however, that he first saw 'varicose capillaries' at my house, and in my preparation; but stating that had I not shown them to him, he should have discovered them himself.' Convinced, no doubt, by his laborious investigations, continued perseveringly 'during several hours for several days,' Dr. Hake assured me, my opinions were quite correct." The truth is as follows. When Mr. Kiernan suggested to me the use of the expression, "highly vascular," instead of a "plexus of varicose capillaries derived from the portal vein and hepatic artery," I said, "You should have accepted the disease when I offered it to you, but now I am interested in it, for I have worked incessantly at it for ten days." He then said he had used the words "varicose capillaries" in his paper, and that now my work would appear before his, as it was in so advanced a state, adding, that I had certainly "hit on the truth." To which I replied, that if varicose capillaries constituted the secret, of which he had so often spoken, his views were quite correct.

What Mr. Kiernan's secret really is, I do not know at this hour. If it consists in what he has published through Mr. Gerrard, the dispute at once ceases, for I confess I have never seen similar "looped and varicose capillaries." Mr. Kiernan, by "varicose,"

seems to imply "tied into knots:" my views are widely different. As respects the manner in which new vessels are formed, and the mode in which the blood enters them, these things have long ago been decided, and I believe published, by Dr. Todd, of Brighton.

Mr. Kiernan's last assertion, that "all Dr. Hake knows of varicose capillaries he has learned of me," I leave for others to decide on by an examination of my publication, wherein it will be seen how much my views differ from his on the subject of varix.

The gist of this controversy is briefly thus:—

1. Mr. Kiernan asserts that I desired him to exhibit to me his series of preparations, and that in consequence he showed and explained to me a preparation of varicose capillaries; whereas the truth is, I made that request after he had submitted to my inspection, without explanation, a preparation of intestine, and that that request was never complied with.

2. Mr. Kiernan asserts, in a letter to Mr. Powell, that I had claimed what he had shown me as a discovery of my own, and was about to make it public; whereas I had told Mr. Kiernan, previous to his letter to Mr. Powell, that I intended to give him publicly the full advantage of his preparation.

3. Mr. Kiernan asserts, that all I know of varicose capillaries I had learned of him; whereas the truth is, that I first saw varicose capillaries at Paris*. I beheld them subsequently in Mr. Kiernan's preparation, and worked them fully out in carcinoma of the hepatic ducts in the rabbit; and moreover, that my views of varix and Mr. Kiernan's are totally at variance.

I have the honour to be, sir, with deep respect,

Your very obedient servant,

T. G. Hake.

42, Gordon Square,
August 21, 1839.

Extract of a letter from Henry Lindo, Esq. of Paris, to Dr. Hake.

"I immediately wrote to M. Monneret stating exactly the contents of your letter. This morning I have received his letter for you. I think you will find M. Monneret's letter sufficient testimony that you had seen the dilatations. And, moreover, I wrote to M. Billot, who, if you remember, was present with me when you showed us some of your preparations; he does not remember your having shown us,—but that you mentioned the circumstance of having observed, the dilatations of the arteries: and that is exactly the impression left on my mind.

"I should think that M. Monneret's letter is sufficiently clear to prove that you had observed the varicose state of the capillaries, and I have no doubt that you will find it so."

(COPY.)

19 Août 1839.

Mon cher confrère,—Je me rappelle fort bien qu'il y a quatre ou cinq mois, lors de votre séjour à Paris, vous avez bien voulu me rendre témoin de vos récherches microscopiques sur la structure de la rate; vous avez même dans ce but apporté chez Monsieur Andral et montré à ce professeur les diverses préparations anatomiques destinées à rendres évidentes la disposition des vaisseaux (artères et veines), leur mode de communication et la structure de ce que vous considériez comme les granules spléniques; vous m'avez parlé également à cette époque, de la dilatation des artères dans une rate tuberculée. Voilà ce que je puis affirmer, mais je ne puis dire si j'ai aperçu bien manifestement cette dilatation; mes souvenirs ne me servent pas en ce moment assez pour celà.

Je vous avais proposé à ce sujet de mettre dans les journaux de médecine français une note, dans laquelle vous auriez exposé succinctement les idées nouvelles que vous vous proposiez de devélopper plus tard; vous aviez même rédigé quelques lignes que vous m'avez montrées dans ce but. Il parait, monsieur, que vous avez eu grand tort de ne pas suivre mon conseil, puisque l'on vous a contesté la priorité de quelques-unes de vos découvertes. Je le regrette vivement, d'autant plus que vous ne mettiez aucun mystère à publier le résultat de vos recherches.

Si mon témoignage peut vous être de quelque prix, je vous le donne avec le plus grand plaisir, et je profite de cette occasion pour vous renouveler mes souvenirs d'amitié.

Dr. Monneret,
Agrégé à la Faculté de Médecine de Paris.

Rue St. Opportune, No. 7.

* I possess four preparations of aneurism of the capillaries in tubercle of the spleen. These were made by me in Paris nearly a year ago, as MM. Andral, Monneret, D'Arcet, Dujardin, Lindo, and others, can bear testimony.

MEDICAL GAZETTE.

Saturday, August 24, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE NEW EDINBURGH PHARMACOPŒIA.

We make no apology for again, and so soon, directing our readers to the new Pharmacopœia of the Edinburgh College: for, among the multiplied objects which engage the attention of medical practitioners, the knowledge of officinal formulæ, if not one of the most shining accomplishments, is assuredly one of the most useful; yet it is one which, at the present day, is most strangely neglected. Instances of deficiency in this point are painfully numerous. If we look over a file of prescriptions, or read those which are printed in the medical journals, we see countless examples where the prescriber has been awkwardly straining at a combination, which occurs as an elegant formula in some well-known Pharmacopœia. Nay, in too many cases, the practitioner is actually unacquainted with the most essential formulæ in the Pharmacopœia of his own country! Perhaps it would be too much to expect from ordinary diligence an acquaintance with all the minutiæ of the work; but it certainly is not too much to ask that, when the physician prescribes digitalis or prussic acid, he should know how his orders will necessarily be interpreted. Yet, if we may believe the critics, and we fear that we must add our evidence to theirs, it is quite common for the physician and the druggist to use a different language. Dr. Collier, in his translation of the London Pharmacopœia, after observing that the present infusion of digitalis is only one-half the strength of the former one, asks what the druggist is to do if he finds this infusion in a prescription; is he to send the old or the new one?—as if there could possibly be any doubt about the meaning of the term Inf. Digit.; the Pharmacopœia being expressly published for the purpose of "preventing all deceits, differences, and uncertainties, in making or compounding of medicines, if, for the future, the manner and form prescribed therein should be practised by apothecaries and others, in their compositions of medicines."

The painful fact, of course, which suggests the doubt is, that the prescriber too often continues to use old formulæ in cases where it is essential that he should adopt the new. But if it should be objected that Dr. Collier is too acrid in his commentary, and as he sometimes imagines faults that have no existence, may also fear a misapprehension that can scarcely arise, we will back his authority by a gentler witness. In the Lancet of last Saturday, Mr. Bell, the druggist, of Oxford Street, complains of the changes of nomenclature in the London Pharmacopœia, and says, that although the last edition has been published about two years, physicians in great practice are heard to assert that they never prescribe from the new work, but adhere to the former names and formulæ. He illustrates the inconvenience of this by the instance of hydrocyanic acid. Suppose the physician to proportion the dose to Scheele's strength, while the prescription is made up according to the new form, the patient takes only about one-third of the quantity intended, and the druggist is blamed for the badness of the acid. We do not think, however, that in the instances brought forward by Dr. Collier and Mr. Bell, the compilers of the Pharmacopœia are to blame. Mr. Bell justly regards such a work as "a simplified medium of communication between the prescriber and compounder of medicine."

But how can it become so, if the prescriber sturdily refuses to make himself acquainted with its contents? The Italian language is an excellent medium of communication between the English traveller and the inhabitants of the Levant, but only on the condition—that he has learned it. Now, though we exceedingly regret those constant changes in nomenclature, which have arisen from the attempt to keep up with the chemical theories of the day, and the fond persuasion that those theories were immutable truth, we cannot lament every alteration, or wish that the Pharmacopœia was a mere reprint of its predecessor.

It was obviously desirable that the infusion of foxglove should be diminished in strength; and still more urgent, that prussic acid, the most formidable of all preparations, should be in a very diluted form. All practical physicians must acknowledge this, and the sooner every one makes himself acquainted with the exact arithmetical meaning of the *dilutum* in *Acid. Hydrocyan. dil.* the better.

Mr. Bell talks of its "being commonly supposed by those whose occupation does not lead them to study the intricacies of pharmaceutical chemistry, that unless they wish to prescribe any new remedies, they are not obliged to depart from the forms to which they are accustomed." But surely it requires no acquaintance with the subtleties of pharmacy to know that a given infusion has been ordered weaker or stronger than in the previous edition—to look at the book is sufficient. Mr. Bell also objects to the change in the measures; and we agree with him as to the inconvenience of the alteration, but believe that the College had no choice. The Act of Parliament was stringent, and it would have ill beseemed a body like the College of Physicians to attempt to infringe it. We confess we see no valid reason for the parliamentary substitution of the imperial for the wine gallon. Mr. Bell's letter, however, taken aright, is an excellent hint to prescribers to make themselves masters of the Pharmacopœia; for, undoubtedly, nothing can be more discreditable than to be unversed in the necessary medium of communication between themselves and those who are to execute their ordinances. If the physician adds a knowledge of other Pharmacopœiæ to this indispensable acquaintance with his own, it will often enable him to give more vigour to the substance of his prescriptions, and more elegance to their form.

Among the preparations of metals in the Edinburgh Pharmacopœia, we find the Ferri Carbonas saccharatum, which will probably be a useful medicine for children; a solution of iodide of iron; a black oxide of iron; ferrugo, which appears to be the hydrated tritoxide of iron; and sulphuret of iron.

There is no solution of corrosive sublimate: so convenient a preparation ought not to have been wanting.

Under the head of mixtures and emulsions, there is one of Althæa (marsh-mallow); another of creasote, with acetic acid, compound spirit of juniper, and water; and one made with seven grains of scammony and three ounces of milk. The Mist. Camph. contains almonds and sugar, but no spirit; and the Mist. Camph. c. Magnesiâ is made with ten grains of camphor, twenty-five grains of carbonate of magnesia, and six ounces of water.

Of the ointments, liniments, and cerates, we will mention only the Lin. Ammoniæ Comp., which, we believe, is the same thing as Dr. Granville's counter-irritant. It is composed of five ounces of aqua ammoniæ of the density of 880, two of tincture of camphor, and one of spirit of rosemary.

It may be worth observing, as it shows

a leaning to different modes of prescription in France and this island, that the Parisian Codex, though so exceedingly copious, contains only eleven formulæ for pills, while the London Pharmacopæia has fifteen, and the Edinburgh twenty-three.

Under this head, the Edinburgh College have given four different kinds of aloetic pills; others made with the colocynth pill mass and extract of hyoscyamus; pills of ammoniated copper; of Dover's powder; of sugar of lead and opium; rhubarb pills containing acetate of potash; and pills made with extract of rhubarb and dried sulphate of iron.

Among the powders, the Pulv. Effervescentes, the Pulv Rhei Comp., and the Pulv. Salinus Comp., are peculiar to the Edinburgh Pharmacopœia; and among the syrups, those of vinegar and ipecacuanha.

Under the head of tinctures, the College, after mentioning the usual method of preparing them, adds, "a much superior method, however, has been lately introduced, which answers well for most tinctures, namely, the method of displacement by percolation." They give the details of the method, and afterwards, when giving the directions for each separate tincture, generally mention whether or not it can be conveniently prepared by percolation. The tinctures of buchu, lactucarium, lobelia, tolu, quassia, saffron, veratrum, the compound tincture of quassia, the ammoniated tincture of castor, the ammoniated tincture of opium, and the ethereal tincture of lobelia, are not in the London work. The Edinburgh Pharmacopœia has three tinctures containing rhubarb, the London but one. The Edinburgh College order only a simple tincture of iodine, and the London College only a compound one. On the other hand, the tinctura colchici comp. and the tinctura cubebæ, of the southern Pharmacopœia have no equivalents in the northern one.

Dr. A. T. Thomson affirms that "the lozenges of the confectioner are superior in elegance to those of the apothecary, thence the London and Dublin Colleges have properly omitted them." (Dispensatory, 9th edition, page 1151). Nevertheless, the Edinburgh College have increased the number of troches from six in the former edition to ten in the present one; and if an additional argument were wanting in favour of these pleasant remedies, it might be found in the fact that our brethren across the Channel have no less than twenty-eight sorts of lozenges in their Codex. Those of the Edinburgh College are made with gum arabic, tartaric acid, chalk, liquorice, lactucarium, magnesia, morphia, morphia and ipecacuanha, opium, and bicarbonate of soda. It is clear that several of these contain drugs too powerful to be entrusted to the confectioner; but even if, in spite of this objection, the wholesale manufacturers of lozenges supply them to the druggist, it is well that the Pharmacopœia should contain directions for their benefit.

We will conclude this subject on a future occasion.

REGULATIONS FOR MEDICAL GRADUATION IN THE UNIVERSITY OF DUBLIN.

The times of graduation are Shrove Tuesday and the first Tuesday in July. The medical examinations terminate the Tuesday of the preceding week. Candidates must previously have completed their medical education, and produced a chart testifying to the details of the same, and subscribed by the Registrar to the Professors in the School of Physic, as well as by the persons signing the certificates.

Medical students may obtain the degree of Bachelor of Medicine in two modes:—

1st. Candidates *who have graduated in Arts* may obtain the degree of Bachelor of Medicine at any of the ensuing half-yearly periods of graduation, provided the requisite medical education and examinations shall have been accomplished. The pay-

ment at entrance is 15*l*. The fees for study in Arts, during four years, are 7*l*. 10s. each half year; and the fees for graduation in Arts, 8*l*. 17s. 6d.

2d. Candidates are admissible to the degree of Bachelor of Medicine, *without previous graduation in Arts*, at the end of five years from the July* following the Hilary Examination of the first undergraduate year, provided the usual education and examinations in Arts of the first two years of the undergraduate course shall have been completed, as also the medical education and examinations, as in the case of other candidates. The fees for two years' study in Arts (besides the usual entrance payment of 15*l*.) are 7*l*. 10s. each half year.

The graduation fees for the degree of Bachelor of Medicine are 11*l*. 15s. The Testimonium of the M.B. degree will contain the following certificate:—"Testamur sedulam operam medicinæ navasse et examinationes coram professoribus feliciter sustinuisse."

The medical education of a Bachelor of Medicine comprises attendance on the following courses of lectures (of which three, at the discretion of the candidate, may be attended at the University of Edinburgh), in the School of Physic established by Act of Parliament, provided that one and not more than three of the courses which begin in November be attended during each of four sessions. The courses are on—Anatomy and Surgery—Chemistry—Botany—Materia Medica and Pharmacy—Institutes of Medicine—Practice of Medicine—Midwifery (by the Professor to the College of Physicians)—Clinical Lectures at Sir Patrick Dun's Hospital during at least one session of six months, as delivered by the Professors in the School of Physic—the attendance on such Clinical Lectures by the Professors to be extended to three additional months of another session, unless the practice of the hospital be certified by the ordinary physicians of the institution to have been attended from the 1st of May till the 1st of November following the session.

The fees for attendance on the Clinical Lectures are regulated by Act of Parliament: they amount to 3*l*. 3s. to the Professors for each three months' attendance, and (provided the student be of two years' standing in the University) 3*l*. 3s. to the Treasurer of the Hospital for the first year, with a proportionate sum for any longer period. The fees for each of the other courses are 4*l*. 4s.

The examinations for the degree of Bachelor of Medicine are conducted by the Regius Professor of the University, the six Professors of the School of Physic, and the Professor of Midwifery to the College of Physicians.

No further examination is requisite for the degree of Doctor of Medicine, which may be taken at the expiration of three years from taking the degree of M.B., *provided the candidate shall have graduated in Arts*. The fees for the degree of Doctor of Medicine, which entitles the possessor to the same elective privileges as the degree of Master of Arts, are 22*l*.

(Signed) J. H. Singer,
Deputy Registrar.

July 1839.

* The first undergraduate year may be saved by attending the October examination of that year, by a student who has entered not later than the first Monday of the July of the same year, and who has completed the payments previously made by his class.

ON CUTICLE, PUS, AND MUCUS.

By Dr. Henle, of Berlin.

No complete account of the remarkable discoveries of Dr. Henle on those subjects having yet been published in English, we have made the following succinct abstract of the most important results to which he has arrived, from his two chief papers*:—

The most general and essential character of the structure of cuticle is, that it is composed of one or more layers of cells, which cover all the free surfaces of the body—all the internal surfaces of its canals and tubes—and all the walls of its cavities. It is found, therefore, on the external skin, and on all mucous membranes, to the very terminations of the gland ducts that open upon them; on the surfaces of serous membranes; and on the inner surface of the heart; and of all the vessels of the whole vascular system, to their finest net-works. The cells themselves always contain one small, more or less flattened, roundish, or oval kernel, which again contains one or two punctiform granules.

The chief forms of the cuticle-cells are the plaster epithelium, which (like the epidermis) consists of flattened, roundish, or polygonal cells, about 1-160th of a line in diameter, each inclosing a kernel of the same shape with itself, in which one or more granules are contained. When these cells are deposited in several layers, the external are always broader and flatter than the internal, so that they form delicate lamellæ or scales, on whose surface the kernel forms a slight prominence.

* Ueber die Ausbreitung des Epithelium im Menschl. Korp.; Müller's Arch. 1838. Ueber Schleim und Eiterbildung, in Hufeland's Journal der pract. Heilk. 1838.

This is by far the most general form of cuticle; it covers the skin, the beginning of the nasal passages, the cavity of the mouth, the tongue, the conjunctiva, the pharynx, and œsophagus, the labia, vagina, and up to the neck of the uterus, the serous and synovial membranes, the linings of the vessels, &c.

2d. Cylindrical epithelium, which is formed of closely set corpuscles of a conical form, about 1-100th of a line long, whose apices are attached to the mucous membrane on which they are placed, while their bases are free, and which inclose in the middle of their length a flat oval kernel, containing a second more minute nucleus. This form is found in the cardiac region of the stomach, and through the whole intestinal canal, in the urethra and its glands, in the vasa deferentia and tubuli seminiferi.

3d. Ciliary epithelium, in which there are added to the cells of the second form, fine ciliæ attached to their free broad extremities. It is found in the whole respiratory mucous tract, from the chordæ vocales downwards, on the nasal cavities and the upper part of the pharynx, and on the linings of the cerebral ventricles.

Now in all these cases new cuticle is generated from below on the organized surface, in proportion as the superficial layers are constantly thrown off. The latter are separated, in the healthy state, in the form of thin membranes or little scales, or as mucus. This desquamation is chiefly seen in the cuticle covering the skin (the epidermis), whose superficial layers, continually scaling off, have their places constantly supplied by a fresh growth from beneath. In certain parts of the mucous membrane, also, a similar scaling off is constantly and slowly going on in the normal state. The separated particles have not the form of dry scales, like those of the epidermis; but they form a delicate membrane, always permeated by a large quantity of moisture, which constitutes the mucous covering (as it is called) of all mucous membranes. The external surface of the ball of the eye, the meatus of the nose, the cavities of the mouth and fauces, of the œsophagus, and of the vagina, are constantly covered by such a layer of mucus, which may be easily scraped or wiped off, or for the removal of which nature has adapted peculiar processes. The mucous or cuticular covering (for the expressions are synonymous) of the eyeball is constantly carried through the nose by the tears; the mucus of the digestive apparatus is removed with its contents—the food, the chyme, the fæces, and so on.

We have thus a *first* species of mucus, which consists of the normal separated superficial layer of the epithelium, and whose microscopic elements are distinguished from all others, by the cells being very large in comparison with the nuclei, flat, and but slightly connected together. To examine these one need only scrape the nail gently over the tongue or inside of the cheek, and place the substance thus removed, and diluted with a little water, beneath the microscope. Such cells are found, also, in all the excretions which pass over mucous surfaces with a thickish epithelium, as in the tears, the saliva, &c.

Such a desquamation takes place only where the epithelium exists in rather considerable layers. Many epithelia are probably not thus disposed to regeneration, as, for example, those of serous surfaces which could not be removed. The ciliary and cylindrical epithelia, also, separate only under certain conditions, either pathologically, or at certain periods in the healthy state. Thus the whole intestinal canal of the child is thus *skinned* in the first week after birth, and complete coverings of the villi are found in the fæces; the stomach is *skinned* during digestion; the female sexual organs after parturition, by the lochia, and during menstruation. In menstruation, the vagina also always takes part in the process of *skinning;* and the mucus which is separated by the white secretion which precedes and follows the flow of blood, contains the fragments of the epithelium of the neck of the uterus and of the vagina.

In reference to the morbid conditions of the so-called mucus, the *first* and simplest case is that in which neither the formation nor the structure of the epithelium is altered, but the healthy epithelium is separated by some morbid process, as the epidermis often is from the cutis, by abnormal conditions of the latter, by burns, &c. This case occurs—

1st. From mechanical force.

2d. From serous effusion beneath the epithelium, consequent on irritation of the mucous membrane. Bullæ thus formed are often seen on the tongue and the ball of the eye.

3d.—At the termination of many diseases of the mucous membranes, whose similarity to the acute exanthemata of the skin has often been spoken of. Among the most remarkable examples are, the peeling of the tongue, the mouth and lips, and, perhaps, also of the other digestive organs in gastric affections. It is the separated epithelium of the tongue which forms its characteristic coat. The mucus thus separated may contain not merely the elements of the outer layers of epithelium, but also the smaller cells of the inner layers.

In the second class of cases, the forma-

tion of cuticle is, indeed, morbidly increased, but its elements are not at all, or not essentially altered; it is a true hypertrophy of the cuticle. By this process, corns form both on the skin and on mucous membranes, with thick epithelia; or else there is increased desquamation. To this class belong the pityriases, and probably many other cutaneous eruptions among the *squamæ*, without any trace of inflammation or general disturbance. Similar local desquamations without pain, or symptoms of disturbed functions, occur from the mucous membrane of the fauces and pharynx. There are many persons who, especially in the morning, spit up thick, yellowish-white, easily dissolving sputa, without being in any respect unwell; such sputa consist of nothing more than lamellæ of epithelium.

The next cases in this class are those in which the cuticle falls off before it has attained its full development. Such are the soft moist scales which so constantly fall off and are reproduced around atonic ulcers, or in moist lichenoid eruptions, &c. The elements of these scales are not so thin or so dry as those of the epidermis generally; they are flat and large, with distinct nuclei, like epithelium cells; and the skin at such parts, with its red colour, glistening and moisture, approximates very closely to the character of a mucous membrane. Lamellæ of epithelium of the same kind occur in sputa, in the mucus of the vagina, &c. but under circumstances with which I am as yet unacquainted.

In the third and most important class of cases, the formation of the cuticle itself is unhealthy. It is the elements of such diseased cuticle which are generally described as mucus-corpuscles, and mucus-globules, and which it has been desired to distinguish from pus-globules. In the fluid and clear mucus of the cavity of the mouth and nose, and in the saliva, of even healthy men, there are scattered roundish globules, slightly granulated, and measuring from 0·003 to 0·007 of a line in diameter. They may be obtained, mixed with a few epithelium scales, by scraping gently over the lining of the cheek, or at the union of the gum and the root of the teeth. In some of these globules there may be seen at once an obscure oval or roundish kernel with a central dark nucleus; in others it becomes visible only after a certain time. Acetic acid dissolves the exterior shell of the globule, but not the kernel. When the acid is very diluted, it sometimes makes the kernel paler, but does not otherwise affect it; in others the kernel becomes indented at its edges in various ways; most commonly there are two opposite indentations, which are continued, more or less, nearly to the very centre; but not unfrequently there is a third and even a fourth indentation. In some the change does not go beyond indentation; but in most of the globules it is continued till the kernel splits into from two to four portions of smaller size. These smaller corpuscles are roundish or oval, with very sharp dark outlines, and a central depression, so that they sometimes look like rings. When concentrated acetic acid is applied, the process of indentation and splitting, just described, goes on too rapidly to be discerned; and it has therefore been overlooked by Güterbock, Vogel, and other later observers. It need scarcely be remarked, that the same changes which acetic acid produce in the mucus-corpuscles would be produced in the body when the fluid containing them is acid, as the saliva, gastric fluid, &c.

We have thus, in the relation of the mucus-corpuscles to acetic acid, three stages, which may be regarded as so many stages of development traceable into one another. In the first stage the mucus-corpuscles are not distinguished from the epithelium-cells of the mucous or salivary glands, whose exterior in like manner dissolves in acetic acid, and whose kernel remains undissolved, but becomes paler. The other forms are peculiar.

[To be continued.]

ANCIENT & MODERN EMPIRICS.

In ancient times there was a sect of physicians called empirics. This was not a contemptuous nickname bestowed by their adversaries, but a title of honour taken by themselves, and signifying *those who follow experience*. They maintained that, in medicine, theory is of little avail, and that all future practice, to be successful, must be based upon that which has hitherto been so. The rationalists, on the other hand, asserted that practice must be deduced from theory, and that diseases can be treated by him alone who understands their causes and their seat.

It is probable that in this, as in other controversies, the more reasonable disputants of either party adopted the better points of their opponents' practice; so that the rationalists were in reality guided by the results of experience, as far as those results were available; while the empirics, in cases where they were deserted by experience, had recourse to some rational explanation of the cause and nature of the disease, and by no means treated cases at haphazard. Hence the empiric of two thousand years ago was a physician who was chiefly guided by the registered results of previous practice; while the modern empiric seems destined merely to show how far presumptuous folly can go. Indeed, the very word empiric has

become so degraded by use, that it reminds one immediately of manslaughter, coroners' inquests, and the Old Bailey; and instead of signifying one who learns by the experience of others, too often means a man who is unable to profit by his own.—*The Working Man's Companion*, 1839.

PETECHIAL FEVER AT ST. PETERSBURGH.

A CORRESPONDENT of the *Zeitschrift für die gesammte Medicin*, for August 1839, who dates from Petersburgh, says, petechial typhus fever has been really epidemic among us this year. It was not only the hospitals which were full of patients who belonged to the working classes suffering under this malady, but an extraordinary number of cases occurred among opulent families. It was surprising that the patients never seemed to be delirious during the course of the disease, but went on speaking and acting with consistency; yet when the disease was over, towards the end of the third or fourth week, they awoke with astonishment into a consciousness of their condition. The reason probably was, that the typhus action was almost entirely spent upon the lungs and skin, so that the reaction amounted to inflammation in these organs alone, while the brain remained continuously narcotized. With us, as in Germany, the measles have been of an unfavourable character this year, from thorax, and even with irritation of the membranes of the brain; they also attacked many persons for the second and even the third time.

POISONOUS VAPOUR FROM ROTTEN POTATOES.

A POOR family had placed a heap of potatoes under a bed in their only room, where they were frozen during the night, but during the day were partly thawed by the heat of the stove; and they soon rotted from this variation of temperature. One day the children were told to pick the good potatoes, which they did by stirring up the heap with sticks; on which five persons inhabiting the room were immediately seized with giddiness, headache, and vomiting. The accident was ascribed to the fumes arising from the fire glimmering in the stove; and the window being accordingly opened, the patients soon recovered. On the following day the fire was not lighted, but the symptoms returned with equal violence, after the children had again begun to pick out potatoes; and relief was again obtained by opening the window and ventilating the room. These symptoms might be produced from the carbonic acid gas which rose from the fermenting mass of decayed potatoes.—*Med. Zeit.* and *Schmidt's Jahrb.* May 1839.

BOOKS RECEIVED FOR REVIEW.

A Treatise on Varicose Capillaries, as constituting the Structure of Carcinoma of the Hepatic Ducts, and developing the Law and Treatment of Morbid Growths. With an Account of a New Form of the Pus Globule. By Thomas Gordon Hake, M.D. &c. London, 1839. 4to. pp. 20, and six plates.

Cure of Club-Foot, Bent Knee, Wry-Neck, Spinal, and other Deformities. By Gustav Krauss, M.D. With Cases and Woodcuts. London, 1839. 8vo. pp. 42.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 22, 1839.

William Goolden, Maidenhead, Berks.—George Bower Thorpe, Dronfield, Derbyshire.—Joseph Aston, Brigg, Lincolnshire.—George Washington Tailer, Woodbridge, Suffolk.—George Millett Davis.—Thomas Mitchell, Bedford.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Aug.* 20, 1839.

Abscess	1	Heart, diseased	2
Age and Debility	14	Hooping Cough	2
Apoplexy	3	Inflammation	3
Asthma	1	Bowels & Stomach	1
Childbirth	3	Brain	3
Consumption	15	Lungs and Pleura	3
Convulsions	14	Measles	6
Dentition	6	Paralysis	2
Diabetes	1	Sore Throat and Quinsey	1
Dropsy	4	Unknown Causes	40
Dropsy in the Brain	2		
Fever	6	Casualties	6
Fever, Scarlet	3		
Fever, Typhus	1		

Decrease of Burials, as compared with the preceding week . . . 73

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

August.	THERMOMETER.	BAROMETER.
Thursday . 15	from 52 to 65	29·67 to 29·58
Friday . . 16	53 70	29 57 29·58
Saturday . 17	54 66	29·58 29·75
Sunday . . 18	50 67	29·90 29·94
Monday . . 19	53 61	29·86 29·92
Tuesday . . 20	46 55	29·95 30·04
Wednesday 21	39 60	30·08 30·10

Winds, S.W. and N.W.

Except the 21st, generally cloudy, with frequent and heavy showers of rain.

Rain fallen, ·8375 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

We have received the communications of Mr. Gallwey and M.D.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, AUGUST 31, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Retention of urine.—This affection consists in the bladder not voiding the urine when the due quantity has been secreted into it. It is generally attended with pain, or a sense of weight and uneasiness, in the region of the bladder. As the urine accumulates, there is an urgent desire to pass it off, while at the same time the distended bladder, rising above the pubes, forms a roundish sort of swelling in the abdomen, which may not only be felt with the hand, but seen with the eye. When the bladder has become so far distended as that it can be seen or felt above the pubes, there can be no great danger of confounding this with any other affection.

Causes.—There is probably no disease which arises from so many and such varied causes, some of which are purely mechanical, others depend upon the morbid condition of the bladder itself. Thus inflammation of the coats of the bladder may ultimately terminate in retention of urine. Spasm at the neck of the bladder will, by closing the entrance to the urethra, produce a retention; and this inability very frequently is the consequence of inflammation. Spasmodic stricture in the urethra, and likewise organic stricture in the same part, are often causes of retention, the latter of which falls completely within the province of the surgeon. Thickening of the coats of the bladder, and paralysis, are likewise often causes of retention, or an inability to pass off the urine. It also often prevails in the advanced stage of fevers; and it is necessary more particularly to direct your attention to this circumstance, because it is often overlooked by young practitioners, and who may not have seen much of such diseases. When retention has taken place to any extent in fever, there is usually at first some irritation and anxiety, which soon is succeeded by a comatose sort of indifference. The patient at first may be aroused, and may reply to queries, but his answers are mostly irrelevant and unconnected; and this soon ends in complete coma. If the hand be now laid upon the abdomen, a tumor, hard, and feeling somewhat like an orange under the integuments, may be felt; and on inquiry it will be found that the patient has not passed any urine perhaps for the last four-and-twenty, or even eight-and-forty hours. The retention, in such cases, depends upon two different or distinct causes. In one the cause is a decided paralysis of the muscular coat of the bladder, whence it is totally incapable of contracting; and the urine flowing in when the bladder has been fully distended, the urine flows mechanically and slowly through the urethra, producing irritation and ulceration of the external parts, with which it remains in contact. In other cases there is a morbid insensibility—a sort of anæsthesia—in which the usual stimuli are insufficient to excite, but if the stimulus be somewhat increased, there is a respondence.

Treatment.—The treatment, of course, will, to a great extent, depend upon the nature of the causes which produced the disease. A primary object will be to evacuate the bladder, so as to empty it of its contents. Where the obstruction depends upon spasm, we must employ those means which have proved most powerful or efficacious in relaxing spasm. Thus

narcotics, and especially opium, or some of the salts of morphia, should be given at intervals, and until a relaxing effect has been produced. At the same time anodyne enemas should be thrown into the rectum, and the bowels emptied by castor oil, or mild laxative clysters. The patient also may be immersed in the warm bath, or warm fomentations applied to the perineum. As formerly observed, if this spasm be in the neck of the bladder, the tinctura ferri sesquichloridi, given in doses of from ten to fifteen minims every ten or fifteen minutes, has produced the best effects; and if with the chalybeate an opiate be exhibited at the same time, the efficacy of the former will be increased.

When the retention depends upon paralysis, or is an attendant upon fever, the urine should be drawn off by means of the catheter; indeed, in fever more particularly, the urine should be drawn off four or five times in the twenty-four hours, for it is astonishing how rapidly, and in what large quantity, the urine will sometimes accumulate in these fevers; and when the bladder becomes over-distended, the coma and insensibility are invariably greatly increased. I have seen one or two instances in which patients had been tortured in vain by sinapisms for the relief of coma, which the introduction of the catheter completely removed in a few minutes. Therefore, in such cases, always let your first inquiry be, whether the patient has regularly voided the urine, and in sufficient quantity; nor rest satisfied with this, but ascertain the fact by manual examination of the abdomen and hypogastrium.

When the retention depends upon organic stricture in the urethra, the catheter presents the fairest prospect of relief; but it sometimes happens that this instrument cannot be passed; and I must confess, that I cannot approve the violence with which a passage is sometimes forced into the bladder in such cases. If the stricture is impenetrable, it is recommended to puncture the bladder, which may be done either from the rectum, or above the pubes. I have both performed this operation myself, and seen it done by others; but I never saw a case terminate favourably. In my opinion, the preferable mode of proceeding is to introduce a sound, grooved like a director on the back or convex portion, instead of at the side, as in the case for lithotomy, till its point rests upon the stricture. A sharp-pointed double-edged scalpel may now be pushed in from the perineum, till its point is in the groove. If the sound be then pushed, as if to pass through the stricture, the knife will cut through the stricture, and open a passage into the bladder, when a catheter can be introduced, and the passage preserved open, while the external wound readily heals. I have so far digressed, because I know that many think that, in cases of distended bladder from stricture, what is termed puncturing is the only mode of immediate relief.

Suppression of urine.—This disease, sometimes named *urinary fever*, sometimes *ischuria renalis*, differs from the former ischuria in that, in suppression, the function of the kidney is either partially or wholly suspended, and consequently the urine either altogether ceases to be separated, or is but very scantily secreted. We find this affection attended with acute fever, and a sharp or acrid heat of the surface, with thirst, and frequently a urinous taste in the mouth. The whole body also exhales a urinous odour, perceptible not only to the patient himself, but to the bystanders, a remarkable instance of which I saw in Essex. The patient was suffering from suppression; there prevailed a strong urinous smell throughout the whole room, and the patient was bedewed with a sweat, which, in most of its sensible characters, resembled stale urine so closely, that it could not be distinguished, and no doubt consisted of urine intermixed with the cuticular exhalation.

There is pain in the loins close to the spine, with distension, especially in hypochondres*. There is an urgent desire to pass off a large quantity of urine, but very little is voided, and that by drops, for, as we learn from Aretæus, the urine is not totally suppressed, but there is a feeling of a great redundancy or superabundance of urine†. The distension is said to resemble that arising from the corruption of excess of food in the stomach, and which gives rise to flatulence‡. The pulse is generally small, thready, and irritable. In the beginning, according to Aretæus, the pulse is slow and sluggish or labouring, but as the disease advances it becomes small, frequent, disturbed, and irregular§. The sleep is disturbed, restless, and with pain, and frequent starting, especially upon the slightest disturbance, when the patient again falls off into a sort of comatose slumber, as if worn out by fatigue. The mind is not much disturbed in the begin-

* Ὀδύνη κατ' ὀσφυν επὶ ῥάχι βαρεῖα διάτασις τῶν μερῶν μᾶλλον δὲ τῶν ἀμφὶ τὰ ὑποχονδρια.—Aret. De Caus. et Sig. Acut. Morb. lib. 2, cap. ix.

† Ὄυρου ἐπὶσχεσις, ὀυκ ἐς τὸ πάμπαν ἀλλά σἰάγδην μὲν οὐρέουσι, ἐπιθυμίη δέ πολλὸν ἐκχέαι· πλημμύρης γὰρ ἄισθησις.—Ibid.

‡ Aretæus, ibid.

§ Σφυγμοὶ, τὰ πρῶτα μὲν, ἀραιοὶ, νωθροί· ἢν δὲ ἐπί μᾶλλον τὸ κακὸν πίεζη, σμικροι, πυκνοι, ταραχώδεες, ἄτακτοι.—Ibid.

ning, but there is sometimes slight delirium, and the face becomes livid. If the suppression continue, hiccup comes on, with nausea and vomiting; and, if relief be not speedily obtained, dyspnœa with coma, or delirium with convulsions, and speedy death. Of those who die, Aretæus tells us, they suffer most in whom nothing is excreted*. When the urine is secreted in very small quantity it is sometimes extremely acrimonious; then coldness, tremors, shiverings, convulsions, and a sense of over-repletion and distension of the præcordia and parts in the neighbourhood supervene; at last a cold, clammy, urinous sweat breaks out all over the surface, and the patient dies in a convulsion.

Causes.—Many of these have been already considered, such as inflammation of the kidneys, stone in the ureter or pelvis preventing the flow of urine into the bladder, although, in such cases, the function of the kidney is not suspended. This affection sometimes prevails in gouty persons, and in hysterical females; and in such it would appear to depend in a great measure upon spasm.

Diagnosis.—This cannot be very difficult, and indeed the only variety of ischuria with which it can be confounded is the ischuria ureterica, in which the urine, though secreted, does not flow into the bladder†. In fact the nonflux of the urine is the common symptom of all, but there can be no danger of confounding suppression with retention. The great object, therefore, will be to determine whether it be a positive suppression, or merely the consequence of stone, or some mechanical obstruction in the ureter. The swelling in the hypogastrium, or the examination of the bladder per rectum, will enable us to determine the question between suppression and retention.

The flow through the ureter is for the most part dependent upon some mechanical obstruction, and this generally arises from the presence of a calculus in the ureter. When the patient has been subject to pass calculi, and is of a gouty habit, and if any portions of the urine escape, and on examination it indicates the calculous diathesis, we need scarcely hesitate to attribute the suppression to mechanical obstruction from this cause.

As the urine accumulates in the pelvis it will cause a sense of fulness, and painful swelling in the loins; and the urinous odour, depending upon the reabsorption of the urine, will not be exhaled from the surface so early nor so powerfully as in the former case. Lastly, the ease with which the catheter may be introduced into the bladder, and its introduction not being attended with a flow of urine, will farther serve to distinguish suppression from retention.

Treatment.—The treatment in this, as in the case of suppression, will vary, and must be regulated according to the nature of the cause. If there be symptoms of inflammation of the kidney, the antiphlogistic means, already detailed when considering nephritis, must be adopted and persevered in, till the necessary relief has been obtained. When it appears to depend upon spasm, as in hysterical females and persons of similar temperaments, we must have recourse to narcotics and antispasmodics; and of these there are none so effectual as morphia and nitric ether. At the same time, if of a chronic character, becoming as it were habitual, we may exhibit mild and unirritating diuretics and tonics. The sesquichloride of iron and colchicum in such cases has often had a wonderful influence; and when the habit has been as as it were broken by these means, we may then endeavour to correct the hysterical tendency by the remedies suited to this object, and especially by the different preparations of valerian. If the spasm prove obstinate, we should conjoin with these means depletives, especially venesection in the erect posture or in the warm bath, so as to induce fainting and its consequent relaxation as speedily as possible, and with as little loss of the vital fluid as is consistent with the in view.

When the suppression is associated with gout or with a suppression of a paroxysm, then, with sinapisms and other stimulants to the affected joints, we may add the use of colchicum; although I have seen two instances of suppression in a gouty habit, induced apparently by too suddenly checking the fit by excessive doses of the wine of colchicum. The suppression gave way to diluents, aromatics or cordial diuretics, the use of the warm bath, and the application of sinapisms to the gouty joints.

When the suppression appears to depend upon some mechanical cause, without any suspension of the function of the kidney,

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* Οξύτατα δέ ἀνήσκουσι τῶνδε, οἷσι οὐδὲν ἐκκρίνει, ὁκόσοι δὴ ἀνήσκουσι.—Ibid.

† Cullen arranges *Ischuria* in the class *Locales*, order *Epischeses*, and makes four species of the genus ischuria: *renalis* having its cause in the kidney; *ureterica*, in which it is in the ureter; *vesicalis*, in which the urine cannot flow from the bladder in consequence of some affection of that organ; and lastly *urethralis*, in which the flow is prevented by some disease of the urethra. A desire of voiding the urine, with inability to pass it, is common to all four. The two latter are evidently varieties of *retention*, but the term suppression is properly applied only to the ischuria renalis, because, although the flux is restrained in all four, its secretion is supsended or suppressed only in one, the ischuria renalis.

as for instance a calculus*, we must consider the nature of the case, that we may adapt the means to the particular circumstances. Thus we must endeavour to determine the composition of the calculus, to devise the appropriate remedies. We found that the nuclei of calculi consist almost exclusively of lithic acid, or of oxalate of lime (for we may wholly put the cystic oxide, as so rare, out of the question), and that the phosphates are hardly ever found as forming nuclei. Therefore the great probability will be that the mechanical obstruction must depend most frequently on lithic acid, next after this on the oxalate of lime, and that in the majority of cases we shall be safe in adopting the means detailed when considering those diatheses, and which it is unnecessary here to recapitulate, but care also must be taken to prevent or keep down as much as possible the more acute symptoms of inflammation. If, however, we can obtain a small portion of urine, an examination of its properties will in all probability throw considerable light upon the nature of the case.

But, perhaps, it ought here also to be remarked, that grumous blood has occasionally proved the cause of the suppression, and consequently we should, in the absence of any indication of the operation of calculi, consider the possibility of the ureter being rendered impervious by coagulated blood or fibrin†. In such a case the promoting its absorption by mercury, iodine, &c., suggests itself as the most appropriate means of relief. So far for the details: with respect to the general treatment applicable in all cases, they consist merely in regulating the bowels by mild and unirritating laxatives and emollient enemas, and in correcting all errors or irregularities in any of the other functions.

With respect to the consequences: if the suppression be complete, or supervene any acute disease, or that it be original, it generally proves fatal; for, from what we said in relation to the functions of the kidneys at the beginning of these lectures, their operation could not be long suspended without serious injury. One essential operation of the kidneys appears to be, to separate a noxious principle from the blood, and to throw it out from the system; and the severe symptoms which supervene a total and complete suspension of their functions, fully prove how essential they are to the preservation of health; and nature very often endeavours to compensate their inactivity by vicarious discharges, either by vomiting, sweating, or passing off by stool, fluids so closely resembling urine, as not to be distinguishable from it, and unquestionably consist of urine intermixed with the natural fluids, &c. of the organ. Upon the whole, therefore, we may look upon suppression, in most cases, as a formidable disease. The most favourable are those of spasm in hysterical persons.

Incontinence of urine.—By this is to be understood an inability to retain the urine in the bladder, whence it flows away involuntarily; sometimes the patient being unconscious; sometimes, though conscious, he is wholly incapable of resisting the flow. It prevails mostly in early life and in advanced age. In the first case it generally flows from the patient while in bed and asleep, and in general under the influence of a dream; consequently it may be said to pass away voluntarily, but under a delusion. We have already considered some of these cases, and we found that the urine was generally in an unnatural state. In almost all such cases the urine, if examined, will be found disordered to a greater or less extent. A very frequent unnatural condition is a very great tendency to gravel, or even an actual deposition of gravel. From the unnatural and sometimes acrid properties of the urine, the incontinence arises probably from this condition, and, as observed by Dr. Prout, it is probable "that these, favoured perhaps by the position of the body, and probably, also, the morbid sensibility of the bladder, excite so vivid an impression on the imagination, as actually to lead to a voluntary discharge of the urine. Habit," observes the same authority, "and particularly the custom of lying on the back, has considerable effect in keeping up the disease; and in some individuals, in whom the original cause has been long since removed, the affection seems to occasionally recur from this circumstance*."

However, instances of an involuntary discharge of urine, or incontinence of a passive character, are not very uncommon even in young subjects. Dr. Prout says that the urine in such cases generally flows off in the night; but I have seen two or three instances, and, indeed, have now one under my care at the Dispensary, in which the flow is incessant both day and night. In such there appears to be an

* Επέσχει δέ τήνδε, ἤ Λίθος, ἤ ἐγγιγνομενὴ φλεγμονὴ, ἤ Αἱμαλωψ, ἤ τι τοίονδε.—Aret. De Sig. et Caus. Acut. Morb. lib. 2, cap. ix.

† Ες δε ὅλεθρον εὐήθεες· ἐπίκαιρον δε αὐτέων τὸ ἔργον, ἥτε διάκρισις τῶν ὔρων ἀπό τοῦ αἵματος, καὶ ἡ ἀπόκρισις.—Ibid.

* On Diseases of the Urinary Organs, p. 308.

extremely irritable state of bladder, with a torpor of the sphincter. The case above alluded to is that of a girl about fourteen years of age; but nothing seems to relieve. Indeed, such affections often continue till long after puberty, and then disappear spontaneously. It sometimes assumes a hereditary character, affecting almost all the children of a large family, especially the females.

Incontinence in advanced life depends upon a variety of causes, all of which operate by inducing a torpor or inactivity of the sphincter vesicæ. Paralysis of the sphincter will be attended with similar results, more especially if age have given such a stoop forward to the body as that the neck of the bladder shall attain somewhat of a pendent position; in such the flow is unceasing, and the patient is obliged to protect himself from the consequences by the adoption of various appropriate means. It is sometimes connected with disease of the prostate, paralysis from spinal injuries, over-distension of the urethra from a calculus, &c.; and under the head of irritable bladder we have noticed what may be considered a species of incontinence.

Treatment.—The treatment, it is evident, of a disease depending upon so many and such various causes, cannot be based upon any fixed or certain principles. The treatment must vary according to the causes. In children, when associated with the calculous diathesis, this should be most carefully attended to, for while this is allowed to proceed uninterrupted, no remedy directed specially to the incontinence can be of the slightest avail. When the tendency to gravel has been subdued, strengthening the system by tonics, and especially by sea-bathing, will prove of great advantage; and some of the urinary astringents, as uva ursi, may also be given in appropriate doses. Where there appears a want of power or sensibility in the urinary organs, various stimuli, as cantharides, turpentine —the former of which may be applied externally in the form of blisters, as well as administered internally, till the neck of the bladder becomes sensibly affected. In advanced life, in which it depends more particularly upon the inactivity of the sphincter vesicæ, the stimuli may be given the same as above recommended; but it should be recollected that, under these circumstances, the prospects of success are much less than in children, not only because the torpor is greater, and of a much more inveterate character, but in old persons it is often associated with organic disease of some one or more parts of the urinary system. In old persons, in whom the urine is constantly dribbling away, the urine, if allowed to remain in contact, will excoriate and produce gangrenous ulceration of the surface. Hence it is necessary to have some vessel so applied or attached as that it may receive and retain the urine as it flows, and prevent its contact with the skin. Various receptacles of this sort have been contrived, but their description hardly comes within the scope of our present object.

Pains in the loins.—Many alarm themselves from the prevalence of such, and fancy themselves suffering from calculi. Such pains, however, may arise from various causes: some, for instance, are purely sympathetic; some, again, muscular. It may, therefore, be necessary to consider how those arising from calculi may be distinguished from those of a different character. Inflammation of the kidney is attended with pains in the back and loins, and also with scanty high-coloured acid urine, vomiting, and a high degree of sympathetic fever. If with these there is pain extending downwards and forwards toward the groin, along the course of the ureter, retraction of the testicle, and numbness of the thigh on the same side, with tenderness above the pubes, we may suspect the presence of a calculus, and more particularly in the kidney or ureter if the urine be bloody. The mode of determining the nature of the calculous concretion has been already sufficiently explained.

In cases where the presence of calculus is more equivocal, the long and obstinate continuance of these symptoms should awaken our circumspection, because we should recollect that, although not affording distinct evidence of the presence of stone, they indicate the great probability of such an event. This is still more probable if the individual is subject to gout, has resided much in warm and sultry climates, or has suffered much from chronic inflammation of the liver. In such cases always pay the greatest attention to the state of the urine, and lose no time in correcting any unnatural condition by the use of the appropriate remedies, the principles of selecting and adapting which have been already explained. I need hardly observe, that the constitutional symptoms should also be attended to, and the different functions carefully examined, any errors or irregularities in which should be immediately corrected by suitable remedies and proper modes of treatment.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S. Sorbon.

INFLAMMATORY AFFECTIONS OF THE CORNEA.

Coloration of the cornea: The water-green tint—The brown tint—The yellow tint—The dark red tint.—Suffusion of the cornea.—Photophobia and Epiphora.—Disorder of the visual functions.—Acute keratitis: Superficial keratitis—Interstitial keratitis—Deep-seated keratitis.—Termination.—Prognosis.

Coloration of the Cornea.—Returning to the consideration of the anatomical symptoms of keratitis, we must now study the changes which take place in the coloration of the cornea, when it has become the seat of inflammation. When examined in the different stages of the disease, it will be found that the cornea may be of four distinct shades or tints; with these it is important that you should become acquainted, as they will greatly assist you in the diagnosis of the various forms of inflammation we shall have to study.

The water-green tint.—The shade to which this term is applied is met with during the first period of the inflammation, and is not easily distinguished at first sight. Indeed, to form a correct estimate of the change that has taken place, the cornea must be attentively examined, and that on a patient who has only one eye affected. I describe the appearance which it then presents, under the name of the water-green tint, from the likeness which exists between the colour of the cornea and that of a sheet of water spread over a large surface, the transparency of which it very faithfully represents. Viewed sideways, and partially shaded from the light, the cornea has also a peculiarly moist humid appearance. These phenomena are not, in my opinion, to be attributed to any change in the tissue of the cornea itself, but to a change in the aqueous humour of the anterior chamber. I do not, however, attach much importance to this explanation.

The brown tint.—When the inflammation continues, the cornea soon becomes of a light brown colour. On examining it attentively, we also generally find that it is covered, either entirely or partially, with a great number of exceedingly small granulations, smaller even than those which I described as existing in granular conjunctivitis. These granulations give the surface of the cornea a rough and uneven appearance, which we might aptly compare to that of a mucous membrane in the healthy state, and constitute, no doubt, what has been described by M. Lepelletier under the name of granular ophthalmia. The change which takes place in the colour of the membrane evidently depends on an alteration of its tissue—an alteration which may be referred to the external lamellæ. We shall also see presently that it is a symptom of superficial keratitis.

The yellow tint.—A yellow coloration of the cornea is a far more serious symptom than any we have yet examined, experience having shown that it always indicates a deep-seated affection of the tissue of the organ. The yellow tint first appears as a speck in the centre of the cornea, or as a narrow band or circle round its circumference. This circle may be complete or incomplete; in the latter case it is generally found to occupy the inferior portion of the cornea. It is important that you should become familiar with this symptom, as you might otherwise mistake it for a natural appearance caused by the reception of the cornea within the anterior border of the sclerotica. Such an error would probably be attended with disastrous consequences, the rapidity with which the yellow coloration extends being such, that, unless active measures are adopted to arrest its progress, the entire cornea is invaded, and vision is nearly always more or less injured.

The dark red tint.—This epithet does not convey as clear a notion of the colour which it is intended to describe as the expression adopted by Mr. Wardrop. He calls it the flint-stone colour; and those of you who have paid attention to diseases of the cornea, and have been able to observe it in the state the word represents, must confess that it is strictly appropriate. The change in the colour of the cornea generally commences, as with the yellow tint, in the centre.

Suffusion of the cornea.—Besides the changes in colour which the cornea undergoes, when inflamed, it may also become the seat of suffusion, which constitutes the slightest form of opacity. When this is the case, the transparency of the cornea appears rather dimmed. It might be compared to the surface of polished marble over which the finger has been passed, or to a mirror on which a person has breathed, and which is still obscured by a slight vapour. If this suffusion, this haziness, of the cornea increases, it takes the name of *nebula*, ophthalmologists having fancied that a resemblance exists between the slight opacities which are then ob-

served, and the airy clouds we see on a fine day floating in the air, like flakes of snow, festooned by the rays of the sun. The transparency of the cornea becomes more and more impaired when the inflammation does not abate; as, however, a considerable degree of suffusion is generally accompanied by ulceration of the cornea—a lesion which I intend to examine separately—we will not, for the present, pursue any further the examination of this symptom.

Now that we have studied the anatomical characters of keratitis—those which the Germans call the objective—we must direct our attention to the physiological or subjective symptoms of the disease. Although I have used the terms objective and subjective, I must tell you that I by no means admire them; they ought not, indeed, in my opinion, to be employed, as the words anatomical and physiological, or functional, are decidedly preferable. It is well, however, that you should be acquainted with their signification, as they are frequently used by German writers.

The physiological symptoms of keratitis are—intolerance of light, or photophobia; shedding of tears, or epiphora; pain and disorder of the visual functions.

Photophobia and epiphora. — These two symptoms deserve special attention, as they invariably accompany keratitis; they are also met with in iritis and retinitis. If we consult the various works which treat of ophthalmology, we shall find that most authors look upon photophobia and epiphora as symptoms not only of keratitis and iritis, but also of conjunctivitis, or of any other inflammatory affection of the eye. Reasoning and experience both show, however, that this opinion is incorrect, and that the phenomena in question are always the result of a lesion of the cornea, the retina, or the iris, and never that of simple inflammation of the conjunctiva. Nor will it be difficult to explain how the error originated. Not being accustomed to separate the different species of ophthalmia, confounding under the same name several distinct affections of the eye, they did not perceive that the patients on whom they observed these symptoms had not only inflammation of the conjunctiva, but also inflammation of one of the organs I have just named. Now I ask you, can it be rationally allowed that an inflammatory affection of the conjunctiva—a membrane which has no connection with vision—is capable of producing photophobia? In some cases of conjunctivitis, it is true, you see the patients carefully conceal their eyes, and take every precaution to protect them from the light; but this is not owing to photophobia. If they do so, it is merely to avoid the pain which the contact of the air with the inflamed conjunctiva occasions. Some patients also keep their eyes closed, and their eyelids immoveable, because the slightest motion of these organs gives rise to the painful sensation of extraneous bodies between the eye and the eyelid, to which I have so often alluded in speaking of conjunctivitis. A circumstance which proves also that conjunctivitis is not the cause of these phenomena is, that when this affection exists alone, the patient suffers acute pain, it is true, if the eyelids are separated, but is, nevertheless, able to examine every thing around him without the slightest difficulty. On the other hand, it is extremely easy to prove that a lesion of the cornea may produce these symptoms, as the slightest abrasion of that membrane on a living animal is immediately followed by intense photophobia and epiphora.

The intensity of the photophobia varies in the different forms of keratitis. In chronic and in diffuse keratitis it is but slight; its greatest intensity is, when there is ulceration of the cornea; indeed, it is possible to form a diagnosis of the existence of ulceration in eighteen cases out of twenty, from this symptom alone, without examining the eye. Whenever you see a patient who hides his face in his hands, or in the bed-clothes—who contracts his eyelids forcibly if you attempt to open them—from whose eyes a torrent of tears gushes forth as soon as they are exposed to light—you may be certain there is more or less abrasion of the cornea existing. The contact of the air with the ulcerated surface accounts for the intolerance of light being so great.

Epiphora is even a more characteristic symptom of keratitis than photophobia, no symptom shewing more clearly the difference which exists between the inflammatory affections of the cornea and those of the conjunctiva. In conjunctivitis there is a more or less abundant secretion of mucus, which collects in the inner angle of the eye; but, be the inflammation ever so great, even when chemosis exists to a considerable extent, there is no unusual secretion of tears. In keratitis, on the contrary, however violent the inflammation, there is scarcely any secretion of mucus, whilst the effusion of tears is generally so abundant, that the eyes seem literally bathed in water. This, however, only applies to the cases in which the above diseases exist singly; if they are combined, you will necessarily meet with both epiphora and a mucous secretion. The tears also appear to have acquired irritating properties, which they do not

possess in the healthy state, as they give rise frequently to a scalding sensation, and produce erythema, or even slight excoriation of the surface over which they pass.

If the inflammation runs high, the pain is often severe, so much so as to render sleep impossible; this is more especially the case when the cornea is ulcerated. It generally occupies the orbit, from whence it extends to the temples—to the forehead—sometimes all over the head, and is much more violent in some persons than in others—in the evening and during the night than in the morning. This latter circumstance is one of the reasons which have induced ophthalmologists to think that the inflammatory affections of the cornea are of a rheumatic nature. The exacerbation of the pain during the night, ought not, however, to have led to such a conclusion, as there are other maladies—such, for instance, as secondary venereal affections—in which the same symptom is observed.

Disorder of the visual functions.—In the different forms of conjunctivitis we have only found the functions of the eye impaired, as it were, accidentally, when chemosis exists to such an extent as to encroach on the cornea, and obstruct the passage of light. This is not the case with the disease we are now examining; the slightest alteration in the tissue of the cornea invariably more or less impedes the phenomena of vision. This circumstance alone would suffice to distinguish the affections of the cornea from those of the conjunctiva, were other characters wanting.

In keratitis, vision is more or less disordered, according to the form and activity of the inflammation—according, also, to the stage at which it has arrived. If there is but a slight suffusion of the cornea, the objects which surround the patient merely appear rather dimmed; indeed, frequently no difference is perceived. When, however, the suffusion becomes greater—when it assumes the form of nebula—every thing appears as if seen through a mist, the density of which depends on the degree of opacity which the cornea presents. If there exists an ulceration, or a circumscribed collection of coagulable lymph, between the lamellæ of the organ, sight is very seriously impaired, especially when the lesion is opposite the pupil. Alteration of the tissue of the cornea is not, however, the only cause which may impair the visual functions. The aqueous humour may become affected, and assume a milky appearance; the iris may be inflamed, and the contraction of the pupil which then takes place may be so great, as to obstruct the entrance of light into the eye; the inflammation of the cornea may also be so intense as to extend to the crystalline lens, or to the vitreous humour.

Keratitis, as I have already told you, is to be met with both in the acute and in the chronic form. It is to the acute form of the disease that I shall now direct your attention.

Acute Keratitis.

Acute keratitis is, undoubtedly, the most common form of the disease. The inflammation may assume the chronic type at the commencement, it is true; but cases of this kind are not very frequent. Acute keratitis may be superficial, interstitial, or deep-seated. Each of these forms must be examined separately.

Superficial keratitis.—Inflammation of the superficial lamella of the cornea is the least serious form of the disease, and often owes its origin to conjunctivitis, in which case the characters of the two affections are more or less blended. It is also the form of inflammation which is generally produced by external violence. The following are the anatomical characters by which it may be distinguished:—The cornea at first presents a slight suffusion, which, if examined with care, will be found to reside evidently in the external lamellæ. In the course of a day or two it loses its polished appearance, and becomes covered with small granulations, which are not always perceptible to the naked eye, but may easily be seen with a magnifying glass. They may be compared, in every respect, to those which we meet with in granular blepharitis or conjunctivitis, and, like them, are probably due to the hypertrophy of the glandular organs which exist in the external membrane of the cornea. Even when the cornea is primitively affected, that portion of the conjunctiva which surrounds it soon becomes inflamed. Some anatomists deny the passage of the conjunctiva over the cornea; admitting, however, that they are right, we must conclude that the two membranes are continuous; and in either case, the connection which exists between them explains satisfactorily the rapid extension of the inflammation from one to the other. You see, therefore, that in superficial keratitis the conjunctiva is nearly always either primitively or consecutively inflamed. Its vascularity is often so great as to conceal the more deeply seated redness of the sclerotica. Numerous vessels are also frequently seen passing from it on to the cornea, under the form of delicate vascular filaments; sometimes they form a kind of triangular or semilunar network, the base of which rests

on the conjunctiva, whilst the summit advances more or less on the cornea, and terminates by a small pustule, or by a white speck. If the inflammation increases, one or more small phlyctenæ appear, due to a rising of the external membrane of the cornea; between this and the tissue of the organ a little coagulable lymph, or even pus, is effused, thus giving rise to a small abscess. These abscesses generally open externally; but sometimes, instead of perforating the outer membrane, they extend to the inner lamellæ, and occasion the interstitial form of inflammation.

When superficial keratitis is not accompanied by inflammation of the subjacent tissues, there is but little photophobia or epiphora. The objects which surround the patients are distinguished by them, although they appear enveloped by a mist of variable density. Generally speaking, the affection is not serious, and, if properly treated, may be cured in a few days, the cornea completely recovering its transparency in the cases in which there has been no ulceration.

Interstitial keratitis. — The interstitial form of inflammation is the one which is the best known, and has been the oftenest described; indeed, as it is the tissue of the cornea which is inflamed, it is to this affection that the word keratitis more especially answers. Superficial keratitis may be confounded with conjunctivitis; and deep-seated or internal keratitis with iritis; but the interstitial form can scarcely be confounded with either of these affections. It is, also, to this form that what has been said respecting the general symptoms of keratitis principally applies. The anatomical characters it offers are the following:—At the commencement of the disease the cornea often presents the water-green tint I have before described, but its transparency soon becomes much more diminished, and the patient complains that he cannot distinguish the objects which are near him from one another. The cornea assumes a muddy appearance, and effusion of coagulable lymph takes place between its lamellæ, either extending over the entire membrane, or occupying a more or less circumscribed portion of its surface, and that without there being necessarily any phlyctena, any erosion or ulceration of the external membrane. The vascular zone of the sclerotica is exceedingly well marked, and presents the characters with which you are already acquainted. The vessels, advancing in a parallel manner, converge as they approach the cornea, and form a red band of variable width. When there is no ulceration, you will often see very plainly, in the tissue of the cornea, many of them advancing, under the form of small filaments, towards the centre. In many instances there is little or no inflammation of the conjunctiva.

There is but little photophobia or epiphora, unless the cornea be ulcerated; in which case, on the contrary, the intensity of these symptoms is very great. Interstitial keratitis is decidedly the most dangerous form of the disease, and deserves all the attention the surgeon can bestow.

Deep-seated keratitis.—In this form of keratitis the inflammation occupies that portion of Descemet's or Demour's membrane which lines the posterior surface of the cornea. Having hitherto been but little studied, and but imperfectly known, the symptoms of this affection have evidently been confounded with those of iritis. M. Schindler describes two varieties: in one, the internal surface of the cornea is inflamed; in the other, the anterior surface of the iris. The reasons which have induced him to make this division are not, however, sufficiently conclusive; new researches are necessary before it can be recognised. M. Jüngken asserts that in this form of keratitis, reddish streaks, formed by injected vessels and opaque specks, may be seen on the membrane lining the posterior surface of the cornea. I have myself never seen these appearances, although I have paid great attention to the subject. Indeed, when I take into consideration the distribution of the vessels of the eye, I can scarcely understand how these phenomena could take place. The opacities which M. Jüngken and some other ophthalmologists say they have seen, may also be merely the result of an optical illusion. Reflection of light might easily, under certain circumstances, lead us to suppose that a speck occupies the posterior surface of the cornea, whilst, in reality, it is situated on the external surface of that membrane.

There are several symptoms by which this affection may be distinguished from the other forms of inflammation. The external surface, as also the tissue of the cornea, remains healthy. The water-green tint, which, as I have already stated, probably depends on an alteration in the aqueous humour, is very evident during the first period of the inflammation; the aqueous humour gradually becomes more troubled, assuming a turbid appearance, especially in the inferior portion of the anterior chamber. This may be easily explained: the dimness of the aqueous humour is owing to the effusion of coagulable lymph, which, being of greater specific density than the aqueous humour itself, naturally accumulates in the lower part of the anterior chamber. This may also be

observed in iritis; but the following symptom is peculiar to the affection of which we are now treating. On examining very attentively the cornea, you will perceive on its internal surface a number of minute spots, of a greyish yellow colour. Very often it is not until the eye has been examined several times that this peculiar appearance becomes manifest. The spots, which appear as if seen through a pane of glass, are either congregated on one part of the membrane, or scattered; they may be compared to the granulations of the external surface of the cornea. Sometimes there is a collection of matter formed between the internal membrane and the tissue of the cornea, in which case the membrane may give way, and the pus fall into the anterior chamber; or the inflammation may become interstitial.

The pain is more severe in deep-seated keratitis than in any other form of the disease. It is principally felt over the orbits, and in the back of the head, and is accompanied by throbbing in the eye, and by a sensation of fulness and distension. This arises from an increase in the quantity of the aqueous humour; the sclerotica, being of a fibrous nature, cannot give way, the eye becomes distended, and an eccentric compression is established, which gives rise to the peculiarly painful sensations I have mentioned. There is less photophobia or epiphora than in superficial or interstitial keratitis; nor will you be surprised at this, if you remember what I told you in speaking of this symptom. Indeed, photophobia appears to depend principally on ulceration of the cornea, and on the contact of the air with the excoriated surface which the cornea then presents. We have an instance of the pain which this contact occasions in blisters. When the epidermis is intact, the patient suffers but little; but as soon as it is taken off, and the cutis vera is exposed, the pain becomes very acute.

I am inclined to think, from what I have seen of this affection, that it is more frequently met with than is generally supposed. If I am right, practitioners would do well to direct their attention to the study of a disease, which, as I have already stated, has been hitherto but little noticed.

From what I have said—from your own observations at the bedside of the patients, you must be now well aware that the three forms of inflammation I have described may really be met with distinct from one another. But you must not think that it is always so; the cases in which they are distinct, after the first few days, may, on the contrary, be considered as exceptions to the general rule. As, however, even when combined, one form generally predominates over the others, and as the prognosis and treatment of each are different, it is indispensable that you should be acquainted with their several symptoms.

Keratitis does not always follow the regular course I have described. The more serious symptoms, instead of appearing successively, may be present nearly at the commencement of the disease. Thus, in the course of a few days, or even in twenty-four hours, the cornea may become infiltrated with coagulable lymph to such a degree as to resemble a piece of bacon fat. This disorganization of the cornea often takes place after the operation for cataract by extraction, although, before the operation, no circumstance may have existed which could lead you to anticipate such an event. It occurs, indeed, more frequently when the inflammation is the result of external than when it is the result of internal causes. It is very frequent in the different forms of purulent ophthalmia, especially in the Egyptian and in the gonorrhœal conjunctivitis. In some instances the cornea, although passing on to suppuration, may be only partially destroyed, and become vascularized with astonishing rapidity. It then presents the appearance of a turgid, red, fungous mass, bathed in pus, and half concealed by the eyelid. Mr. Wardrop, it seems, has met several cases of this kind among the troops that returned from Egypt. I have myself met with a striking instance in a man affected with extensive carbuncular inflammation of the two right eyelids. The cellular tissue of the eyelids was mortified; and when we were able to separate them, we found the cornea of a livid red colour, looking like a kind of cherry, and interspersed with white and yellow streaks.

In keratitis the inflammation is generally diffuse, occupying the entire cornea; it may, however, be partial. When this is the case, it is nearly always of a chronic nature; and the part of the membrane which is affected often presents a pustule, a phlyctena, or an ulceration. If the inflammation is limited to a portion of the membrane, and these phenomena are not observed, it follows the course I have already described.

Whatever may be the form under which keratitis appears, its progress is much slower than that of conjunctivitis. This depends not only on the nature of the disease itself, but also on its being nearly always accompanied by other inflammatory affections, such as blepharitis, iritis, choroiditis, &c.

Termination. — Acute keratitis usually terminates by resolution, ulceration, sup-

puration, or mortification. For the present I shall only speak of resolution; the other four modes of termination will be studied at a future period.

Resolution is certainly the most desirable termination of the disease; yet, even when it does take place, the functions of the eye may remain more or less impaired. When resolution commences before any infiltration has taken place between the lamellæ of the cornea, before any collection of matter has been formed, sight is restored in all its integrity. If, on the contrary, coagulable lymph has been effused in ever so small a quantity, it is rarely completely absorbed, and gives rise, consequently, to opacity of the cornea. Softening of that organ may also take place to a certain extent before resolution commences; when this is the case its surface becomes uneven, or partly depressed; and then, although the transparency of the membrane is not altered, the sight is more or less injured.

Prognosis.—The prognosis of this affection is generally serious; not that any fear need be entertained for the life of the patient, but because the functions of an important organ are often seriously compromised. We ought, therefore, in every case, to do our utmost to arrest the progress of the inflammation as early as possible. The prognosis is not, however, equally serious in every form of the malady. Superficial keratitis may be completely cured, providing, as I have just stated, resolution commences before any effusion has taken place. Deep-seated keratitis is a more dangerous affection, from its immediate connexion with the internal parts of the eye. When improperly treated, the inflammation may invade nearly all the tissues which occupy the interior of the eye, and be followed by the total loss of that organ. The prognosis of interstitial keratitis is also more serious than that of the superficial form; it is this form of inflammation which most frequently gives rise to collections of matter, to abscesses, to hypopion, and to the more serious forms of opacity of the cornea. I would also remark to you, that the importance of the different forms of opacity depends in a great measure on its situation. Thus, a simple nephelion, or nebula, situated opposite the pupils in the axis of vision, will prove a greater impediment to sight than an albugo, or a leucoma, on another part of the cornea.

CLINICAL REPORTS
OF
DIFFICULT CASES IN MIDWIFERY.

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[Continued from p. 754.]

FOURTH REPORT

Contains a comparative View of the present state of Obstetrical Surgery in Great Britain, France, and Germany, and the Histories of Forty-Two Cases of Difficult Labour in which the Forceps was employed.

If we compare the reports of the principal lying-in hospitals of Great Britain, France, and Germany, and examine the doctrines inculcated by the best systematic writers of these countries, it is impossible to avoid being struck with the want of uniformity which prevails in all that relates to the operations of midwifery. Although the causes of difficult parturition must be nearly the same in every part of Europe, cases of instrumental delivery are far more numerous in some countries and institutions than in others, and the method of operating is widely different. In England there are few practitioners of judgment and experience who have frequent recourse to the forceps, or who employ it before the orifice of the uterus is fully dilated, and the head of the child has descended so low into the pelvis that an ear can be felt, and the relative position of the head to the pelvis accurately ascertained. The instrument is not employed in this country where the pelvis is much distorted, or where the soft parts are in a rigid state; but it is had recourse to where delivery becomes necessary in consequence of exhaustion, hæmorrhage, convulsions, and other accidents, which endanger the life of the mother. It is used solely with the view of supplying that power which the uterus does not possess.

The employment of the long forceps, in cases of distorted pelvis, has been recommended by Baudelocque, Boivin, Lachapelle, Capuron, Maygrier, Velpeau, and Flamant, whose works contain ample instructions for its use before the head of the child has entered the brim of the pelvis; and the

last of these writers has expressed his belief, that the instrument is more frequently required while the head of the child remains above the superior aperture of the pelvis, than after it has descended into the cavity. "Tout practicien," he observes, "qui a médité sur l'application de cet instrument, est convaincu que l'occasion se présente bien plus souvent d'aller prendre la tête au-dessus du détroit abdominal, que dans l'excavation. Je pourrais apporter en preuve ce qui s'est passé à la clinique d'accouchemens de la faculté de médecine de Strasbourg et dans ma pratique civile*."

These authors also recommend the forceps in presentations of the nates, and to extract the head after the expulsion of the trunk and extremities of the child.

The operation of craniotomy is performed by all British practitioners, whether the child be alive or dead, if the condition of the mother is such as to render delivery absolutely necessary, and the head of the child is beyond the reach of the forceps, or where, from distortion of the pelvis, or rigidity of the os uteri and vagina, it cannot be extracted if its volume is not reduced. This operation is performed, from a conviction, that if neglected to be done, and at a sufficiently early period, the mother's life will be sacrificed; and the life of the mother is considered much more valuable than that of the child.

Some continental authors affirm that we have frequently recourse to craniotomy without due consideration, and without regard to the life of the child; and, whatever the state of the parent may be, they refuse to open the head till they can obtain certain evidence that it is dead. "Nothing could excuse the conduct of the practitioner," observes Baudelocque, "who would perforate the head, without previously knowing with certainty that it was not alive—a circumstance which can alone authorise us to employ the perforator and crotchet."

The same opinion is expressed by Velpeau, who maintains, that even when the child is dead, if the diameter of the pelvis is only 15 lines, or the whole hand cannot be passed into the cavity of the uterus, to turn the child, the Cæsarean operation is to be performed. When the small diameter is from 12 to 15 lines, he considers hysteriotomy to be necessary, whether the child be alive or dead; and that it is also required, if the child be alive, when the diameter measures from 18 lines to 2 inches and a quarter. Craniotomy, he thinks, must be rarely necessary, for in more than 20,000 labours it was performed only twelve times, by Madame Lachapelle, in the Maternité of Paris.

According to Stein and Plenck, a conjugate diameter of 3 inches, $2\frac{3}{4}$, $2\frac{1}{2}$, or $2\frac{1}{4}$, prevents either nature or the forceps from effecting the delivery. Therefore, if the child be living, the Cæsarean section must be performed, or, if the child be dead, the perforator must be used.

These authors also affirm that a conjugate diameter of 2 inches renders delivery impossible. If the child be alive, the Cæsarean section must be performed; if the child be dead, it is scarcely possible to open the head*.

The reports of 258 cases of Cæsarean section have been collected by Michaelis, 144 of which occurred in the last, and 110 in the present century. Of these 258 cases, 140 proved fatal.

Velpeau states that the operation was performed 28 times between 1810 and 1820, and 61 times from 1821 to 1830. It is well known that many unfortunate cases of Cæsarean operation have occurred in France and Germany, of which no reports have been published; and those who have recently visited the continent have assured me, that this operation, notwithstanding its fatality, is becoming more and more common.

In Great Britain, the reports of at least 26 cases are to be found; and in 24 of these it was fatal to the mother. About 13 of the children were born alive. If correctly informed, there is no eminent accoucheur now practising in London, who has been present at the performance of the operation upon the living body, or who would recommend it, if delivery could be effected by the perforator and crotchet.

The discordance which exists between Continental and British practitioners and authors is not less strikingly displayed, respecting the induction of premature labour. In numerous cases, it

* Mémoires Pratiques sur le Forceps, p. 25, Strasbourg, 1816.

* Merriman's Synopsis, p. 318, Lond. 1826.

has been successfuly employed in this country; and it is now fully ascertained that the operation is attended with little risk to the mother, and that nearly one-half of the children are born alive, and continue to live, where it is performed after the seventh month. In cases of great distortion of the pelvis the induction of premature labour at an early period of pregnancy, before the sixth month, is likewise known to be a safe operation, and to render craniotomy and the Cæsarean section wholly unnecessary.

In Germany and Holland it has frequently been employed by May, Weidman, Ch. Wenzel, Reisinger, and Kraus, with satisfactory results.

Baudelocque regarded the induction of premature labour as a useless, if not an injurious, operation; and Dugés has recently characterized it as fatal to the mother and infant, and the source of most frightful abuse.

In the tables of the Maternité, by Baudelocque, Boivin, and Lachapelle, including nearly 60,000 cases of labour, there is no report made of any case in which premature labour was induced. The last of these writers begins her strictures on the practice by declaring "that she had never either employed that method or seen others have recourse to it."

In 1827, the propriety of inducing premature labour was brought under the consideration of the Academy of Medicine by M. Costa, and in their decision they declared—"Que la question était inconvenante, et elle établit que, dans l'état actuel de la science, il n'existe aucun cas où il soit permis de provoquer l'avortement chez une femme grosse; ni le rétrécissement considerable du bassin; ni le développement de convulsions; ni même l'implantation du placenta sur l'orifice utérin; qu'il n'y a pas de moyen s'assurer de le viabilité du fœtus; enfin, que le plus souvent les accouchemens provoqués sont funestes à la mère et à l'enfant*."

According to this judgment, the induction of premature labour is unwarrantable under any circumstances.

A Table exhibiting a comparative View of the frequency of Forceps and Craniotomy Cases in several Lying-in Hospitals†.

Lying-in Hospitals.	No. of Labours.	Forceps Cases.	Proportion.	Craniotomy Cases.	Proportion.
Dublin, Dr. Joseph Clarke	10,199	14	1 in 728	49	1 in 248
Ditto, Dr. Collins	16,654	27	1 — 617	118	1 — 141
Maternité, Paris, M. Baudelocque	17,388	31	1 — 561	6	1 - 2898
Ditto, Mad. Lachapelle	22,243	76	1 — 293	12	1 - 1854
Ditto, Mad. Boivin	20,517	96	1 — 214	16	1 - 1282
Vienna, Dr. Boer	9,589	35	1 — 274	13	1 — 737
Masburg, Dr. C. Siebold	340	35	1 — 10	1	1 — 340
Heidelberg, Dr. Naegele	1,711	55	1 — 31	1	1 - 1711
Dresden, Dr. Carus	2,549	184	1 — 14	9	1 — 283
Berlin, Dr. Kluge.....	1,111	68	1 — 16	6	1 — 185
Ditto, Dr. Siebold.....	2,093	300	1 — 7	1	1 - 2093

The present state of operative midwifery can afford little satisfaction to those who know the full extent of the good and evil it is capable of producing to society, and who desire that its principles should be as clearly understood as those of the other branches of surgery. Had a faithful report been given of all the cases of artificial delivery contained in this table, with the results of the operations performed, it is impossible that so great a discordance of opinion could so long have existed respecting the employment of instruments in the practice of midwifery.

I propose in this and the following reports to give a short account of all the cases of difficult parturition in which I have had recourse to the forceps, the induction of premature labour, and craniotomy, with the view of illustrating the various circumstances which

* Archiv. Gén. de Médecine, t. 13, p. 441.

† See Dr. Churchill's Researches on Instrumental Delivery, in the seventh volume of the Dublin Journal of Medical and Chemical Science.

render these operations necessary, and the difficulty and danger with which their performance is accompanied.

I shall first relate those cases in which the forceps was followed by mischievous consequences, or produced no benefit either to the mother or child; and 2dly, those cases in which the lives of the children were manifestly preserved by its use.

Case LXIX.—On the 28th June, 1823, I was present at the delivery of a woman, æt. 30, who had been in labour nearly three days and nights under the care of a midwife attached to a public institution. It was the first child. The orifice of the uterus was not fully dilated, and very rigid. The vagina swollen and tender, the abdomen tense and painful on pressure. Tongue loaded; urgent thirst; countenance flushed; pulse rapid and feeble. The labour pains for ten or twelve hours had been gradually becoming more feeble and irregular. The head of the child was strongly compressed, and much swollen, and the greater part of it was above the brim of the pelvis. An ear could not be felt, and the hollow of the sacrum was empty. It was determined by the practitioner who had the charge of the case, to attempt to deliver with the long forceps, and he observed, before proceeding to introduce the blades, that it was a case, in which the superiority of the long over the short forceps would be observed in a striking manner, and that in less than a quarter of an hour the delivery would be safely and easily completed, and the life of the child preserved. The blades of the forceps were, however, introduced with great difficulty, and still greater was experienced in getting them to lock. Strong traction was then made for several minutes, and the blades slipped off the head. They were reintroduced, and the efforts to extract renewed, and continued till the instrument again slipped off. This happened several times, but the attempt to deliver with the forceps was not abandoned till the operator was exhausted with fatigue. The head was then perforated, and extracted with the crotchet. Violent inflammation and sloughing of the vagina followed, and about three weeks after delivery it was ascertained that a large vesico-vaginal fistula existed. This woman was abandoned by her husband, and was afterwards reduced in consequence of this misfortune to the greatest possible misery.

This was the first time I ever saw the forceps applied in actual practice, and I was struck with the vast difference which exists between the application of the forceps upon the phantom and a woman in labour. The unfortunate termination of this case made me resolve carefully to watch the progress and termination of all the cases of difficult labour which I could meet with, and preserve accurate histories of them, which has been done to the present time.

Case LXX.—On Saturday morning, 12th July, 1823, I was called to see a poor woman, æt. 26, also a patient of a public institution, who had been nearly fifty hours in labour with her first child. The membranes had been ruptured on the Thursday evening, and the pains had been gradually becoming more and more feeble during the afternoon and night of Friday. On Saturday morning the pains had nearly ceased. The pulse quick; skin hot. The pupils were unusually dilated, and there were slight convulsive tremors of the muscles of the face and extremities, with occasional incoherence. The orifice of the uterus was fully dilated. The external parts were rigid, hot, and swollen. The head of the child was firmly squeezed into the brim of the pelvis, but the greater part of it had not passed through it. The bone overlapped much, and a large tumor of the scalp was formed. A copious venesection was employed, and soon after two severe fits of convulsion took place. The blades of the long forceps were applied, but they slipped off the head, as in the former case when an attempt was made to extract, and the delivery was completed by craniotomy. In a few hours consciousness returned, and no more fits were experienced, but on the third day inflammation of the uterus took place, from which she recovered with the greatest difficulty.

Case LXXI.—April 1832, I was called to an out-patient of the St. Marylebone Infirmary, who had been in labour nearly sixty hours, and was attended by one of the parochial midwives. I found the os uteri thick, rigid, and imperfectly dilated, the bones of the head squeezed firmly into the brim of the pelvis, and not sufficiently low down to allow the ear to be felt. The ergot of rye had been administered by the midwife at different times during the pro-

gress of the labour, and it was said to have increased the strength of the pains. Mr. Hutchinson, house-surgeon to the Infirmary, agreed with me in thinking, that the forceps could do nothing but mischief, and that it was necessary to deliver without delay by opening and extracting the head. This I immediately did, and from the long-continued efforts required to draw the head into the cavity of the pelvis, it was evident that the delivery could have been accomplished in no other way with safety to the mother. She recovered rapidly.

On the 11th April, 1833, I was again called to deliver this woman, but being indisposed at the time, Mr. Hutchinson attended her for me. He found the scalp tumid, the bones riding, external parts swollen. Pains strong for thirty hours. He opened the head, and found little difficulty in extracting it.

In the autumn of 1834, I was called to Calmell Buildings to deliver this patient in her third labour. She was on this occasion attended by two gentlemen who were pupils of a public institution, and she had neglected to inform them of what had occurred in her two previous labours. Before I saw her the ergot of rye had been liberally administered, and repeated attempts made to deliver her with the forceps, the blades of which had lacerated the vagina extensively on the left side. The vagina and external parts were enormously swollen and inflamed. The head was so fast wedged in the brim of the pelvis that it was difficult to pass the finger around it. The abdomen was tense and painful on pressure, and the bladder filled with urine. The pulse extremely rapid and full. There was incessant vomiting and complete exhaustion. I immediately opened the head and extracted it with the crotchets, but she died in less than twenty-four hours after.

Case LXXII. — In the summer of 1833, a general practitioner, of little practical experience, was engaged to attend a woman in labour, who resided in one of the courts between Princes Street and Great Windmill Street. She had previously been delivered of several children without difficulty. On this occasion the labour was protracted, and, without any consultation, recourse was had to the forceps, and she was delivered of a dead child. Soon after, the usual symptoms of ruptured uterus supervened, and she did not long survive. In the evening I saw the body, but was not permitted to make any examination of it. It was with difficulty that a coroner's inquest was prevented from being held. The surgeon, after this occurrence, soon left the country, and is now absent from England.

Case LXXIII.—About seven years ago, a medical practitioner, who had been extensively employed as an accoucheur at the west end of London, met with a case of very protracted labour, in which it became evident that the child would not be expelled without artificial assistance. He called into consultation an obstetrical physician of the greatest celebrity, who has been accustomed in his lectures to recommend the employment of the long forceps. At six in the morning, when he was called, the head of the child had not passed through the brim of the pelvis, and was completely beyond the reach of the forceps. At the end of four or five hours, during which time the head had not descended further into the cavity of the pelvis, it was determined to deliver with the long forceps. The blades of the instrument were passed up, and the head grasped and extracted, after the employment of much force ; but scarcely had the delivery been accomplished, though there was no hæmorrhage, than the patient became restless, sick, and faint, and threw her arms incessantly around her. She died within three hours, with symptoms of ruptured uterus. The child was alive, and has been reared.

Case LXXIV.—In the summer of 1831, I saw a case in the Middlesex Hospital, with the late Dr. Hugh Ley, in which extensive sloughing of the vagina had followed the use of the forceps. The instrument had been employed by a medical practitioner of experience and reputation. The child was dead.

Case LXXV.—In the same year, Mr. Prout, surgeon to the British Lying-in Hospital, requested me to accompany him to a case of difficult labour in Ogle Street, from a thick cicatrix of the vagina. This patient had likewise been delivered some years before with the forceps, and the accoucheur was an eminent operator.

I am uncertain if the first child was alive.

Case LXXVI.—At 10 A.M. December 6, 1835, I was called to Mrs. N——, æt. 36, residing at 7, Farm Street, Berkeley Square, who had been upwards of thirty hours in labour with her second child. I found the umbilical cord hanging out of the external parts, and without pulsation; the meconium escaping, and the discharge from the vagina very fœtid. The head and right arm were jammed in the brim of the pelvis, the orifice of the uterus fully dilated, and an extensive cicatrix, with a thin edge, high up in the posterior wall of the vagina. I immediately opened the head of the child, and extracted it very slowly with my craniotomy forceps, so that no part of the vagina was torn.

The medical practitioner who had the charge of the case informed me that he had delivered this patient with the forceps, of her first child, two years before, after she had remained in labour three days and nights. The child was dead, and her recovery was so favourable that no suspicion existed of the vagina being injured.

Case LXXVII.—In the month of December 1838, a woman, twenty-four years of age, was admitted into St. George's Hospital, who had been delivered of her first child about nine weeks before. The perineum, recto-vaginal septum, for nearly an inch and a half, and sphincter ani, were all destroyed, and the power of retaining the contents of the rectum entirely lost. The case admitted of no relief except by pressure, preventing the constant escape of the fæces. This wretched state had resulted from laceration and sloughing of the parts, from the employment of the forceps in her first labour. The child was dead.

Case LXXVIII.—In the summer of 1839, I was requested to see a patient whose labour was protracted by a tumor within the pelvis. She had been delivered before of several children, and all her previous labours had been easy and natural. After she became pregnant on this occasion, she thought, from feeling two distinct swellings of the abdomen, that she had twins. When I first saw her, she had been in labour nearly twenty-four hours. The head had scarcely begun to enter the brim of the pelvis, the cavity of which was nearly filled with a tumor, which was probably ovarian. Whenever a pain came on, the tumor was pressed down before the head. The forceps had been applied, but the head could not be brought before the tumor, though great and long-continued efforts had been made to drag it forward. I opened the head, and had much difficulty afterwards in drawing it down with the crotchet.

Case LXXIX.—On the 12th March, 1835, I was present at the delivery of a patient in a public institution, where the forceps was applied, and the bones of the fœtal head were severely injured. The woman was 27 years of age; it was her first child, and she had been nearly forty hours in labour. The pains had not ceased altogether, but the head had not advanced for many hours, and it had not cleared the brim, though the ear behind the symphysis pubis could be felt. A physician of the greatest experience, and very dexterous in the use of the forceps, applied it; but the head could not be extracted without employing great force for a considerable period. The child breathed for a few seconds, and then expired.

On the following day I examined the head of the child, and found the bones of the skull much injured, and the posterior part of the right parietal bone completely detached from the occipital bone. The patient recovered.

LXXX.—In the evening of the 24th August, 1837, I was called to a lady who had been in labour since one o'clock in the morning; during the whole of which time the pains had been feeble and irregular. At four in the afternoon a dose of laudanum had been given. At 9 P.M. the pains were weak, and she seemed much exhausted. The orifice of the uterus was imperfectly dilated, and the greater part of the head was still above the brim of the pelvis. Near the navel, a part of the uterus projected so much, from some part of the child being pressed against it, that we dreaded rupture of the uterus.

The forceps was applied by the medical attendant, and strong efforts made with it to extract the child, but they were useless; and it became necessary to have recourse to craniotomy. The perineum was lacerated while the shoulders were passing.

The patient recovered, and has since been delivered of a living child without instrumental aid.

[To be continued.]

CLINICAL OBSERVATIONS
ON
THE USE OF THE AIR-DOUCHE IN THE DIAGNOSIS AND TREATMENT
OF
DISEASES OF THE EAR.

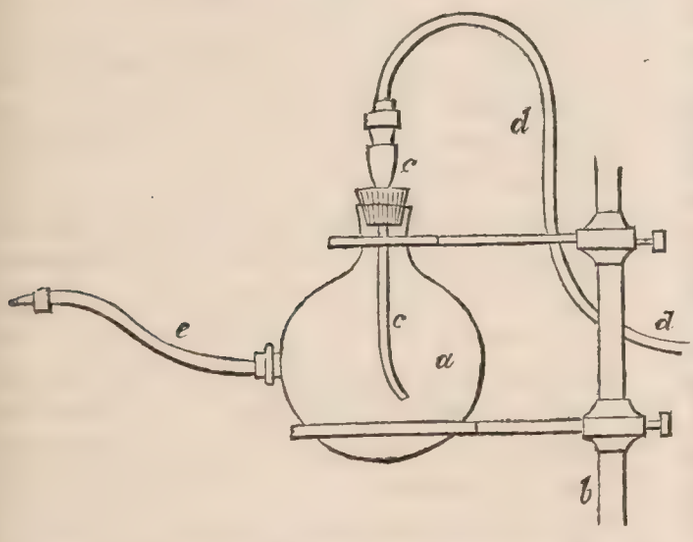
By T. Wharton Jones, Esq.

[*For the London Medical Gazette.*]

No. V.

The injection of ethereal vapour into the tympanum was first tried as a remedy for deafness by Itard, but it is to Kramer we owe the most complete observations on the subject. I have already given some hints of a view different from that of Kramer, which might be taken regarding the pathology of at least some of the cases benefited by ethereal vapours thrown into the middle ear, and of course also regarding the *modus operandi* of the remedy.

According as the case is, in his opinion, one of erethitic nervous deafness or torpid nervous deafness, Dr. Kramer applies the ether raised into vapour by its own volatility at the temperature of the atmosphere, or by means of the application of heat; and for these purposes he employs two different apparatuses, which are described and delineated in his work. The apparatus I have employed is represented in the annexed engraving:—



a. A tubulated glass receiver, into which some drops of acetic ether are put.

b. A chemical stand for supporting the receiver.

c. c. A large Eustachian tube catheter, fitted in a cork and inserted into the neck of the receiver.

d. d. The flexible tube of the air-press, inserted into the wide end of the catheter, and conducting an extremely gentle stream of air into the receiver.

e. A flexible tube, fixed at one end, by a cork, into the small mouth of the receiver. The beak at the other extremity is adapted to fit into the wide end of the catheter introduced into the patient's Eustachian tube.

The stream of air from the air-press is regulated by plunging the beak of its flexible tube, before joining it to the apparatus, into a glass of water, and seeing that the air issues out merely bubble after bubble.

The air from the air-press thus issuing in a gentle stream, becomes, in its passage through the receiver, loaded with ethereal vapour. If it is desired to apply the air loaded with a greater quantity of ethereal vapour, then more or less heat, by means of a wax taper or spirit lamp held for a minute or two under the receiver, may be applied.

This simple and extremely convenient contrivance thus serves the purpose of the two separate apparatuses of Kramer.

Of course, before attempting to inject the ethereal vapour into the tympanum, it must be ascertained that the Eustachian tube is pervious. If it is in any way obstructed, the injection of the ethereal vapour will be found, as mentioned in my last communication, to assist the action of the air-douche. When the Eustachian tube has been ascertained to be pervious, it is nevertheless advisable, every time before proceeding to send in the vapours, to satisfy oneself, by blowing with the mouth, that the catheter lies right, and that there is free passage to the tympanum. It is not enough, either in applying the air-douche or ethereal vapours, that the beak of the catheter be engaged in the Eustachian tube in any sort of way; the axis of its orifice ought to be as near as possible in that of the passage; and to get it so, repeated trials, by blowing with the mouth, or by a very gentle stream from the air-press, must be made, and the catheter shifted accordingly, by rotating it on its axis so as to turn the beak more or less in a direction upwards and outwards, by pushing it a little further in or drawing it somewhat out. After each shifting, it is to be again steadily fixed by the vice of the frontlet. Without the catheter being steadily fixed by the frontlet, the former cannot keep in a proper position, and the subsequent steps of the operation consequently cannot be

performed with precision and effect, nor without unnecessary pain. If the catheter does not lie properly, the stream of air often does not enter the tympanum at all; in which case an obstruction of the Eustachian tube may be suspected where none really exists. On the other hand, without ascertaining exactly if the Eustachian tube be pervious preparatory to employing the injection of ethereal vapours, this treatment may be carried on for a long time without the vapours ever getting into the tympanum. A prickling sensation in the tympanum is in general a pretty good sign that the ethereal vapour has entered.

Case II. (continued). — *Renewal of deafness—Eustachian tubes pervious, and the tympanic cavities free of any accumulation of mucus.—Treatment by ethereal vapours sent into the tympanic cavities, assisted by general remedies.*

I had not seen or heard any thing of Master C. D. from the 18th of August, 1838, until Saturday, the 30th of March, 1839, when he was brought to me with his hearing in the following state:—Right ear, eight inches; left ear, four inches.

Has had in the course of the winter several very severe attacks of ear-ache; but the hearing, it appears, only became so dull as it is now two or three weeks ago, when he was seized with a nasal catarrh.

Auditory passages in a healthier-like state than before.

Exploration by the air-douche showed the Eustachian tubes to be pervious, and the tympanic cavities free of any accumulation of mucus.

No great improvement in hearing immediately after the air-douche.

Monday, 1st April.—Hearing distance of the right side, nine inches; of the left side, six inches.

Air-douche applied to the right ear. The air entered freely, as on Saturday, but with more gurgling at first.

Vapours from a few drops of acetic ether were also injected into the right tympanum for five or ten minutes.

Tuesday, 2d.—Hearing distance of both sides, about eight or nine inches.

No improvement immediately after air was sent into the tympanic cavities by a forced expiration with the nose and mouth closed.

Left side treated. No improvement immediately after.

Wednesday, 3d.—The above detailed exploratory treatment led me to form the following opinion of the case, which was submitted to Sir James Clark at a consultation to day:—

Diagnosis.—This new attack of deafness is owing, not like the former, to accumulation of mucus in the middle ear, but probably to some change, such as thickening and the like in the mucous membrane lining the tympanic cavities, produced by the neglected inflammatory attacks.

Prognosis.—Some improvement of the hearing may be effected by prolonged treatment, but by no means to the amount obtained before.

Treatment.—The only local treatment which experience recommends is acting on the membrane supposed to be affected, by the vapour of acetic ether injected into the tympanum. This course of treatment, however, is not to be commenced until the state of the throat and of the intestinal mucous membrane has been improved, the nasal catarrh completely gone off, and counter-irritation kept up for some time on the sides of the neck behind and below the ears.

To take an emetic, and afterwards some laxative and alterative medicines. Blisters to the sides of the neck.

Wednesday, 10th.—Has taken the medicines, and has had the blisters applied.

Hearing much the same.

Thursday, 11th.—Right ear, one foot; left ear, eight inches.

Nostrils too tender to allow the passage of the catheter.

℞ Hydr. cum Cretâ, gr. xxxv.; Pulv. Ipecac. gr. iv,; Extract. Aloes aquos. gr. xij. Fiant pilulæ xij. Sig. Alterative pills; one every night.

℞ Pulv. Rhei ʒjss.; Sodæ Carbonat. ʒiij; Sodæ Tartarizat. ʒvj.; Sacch. Alb. ʒj. Misce optime in mortario ut fiat pulvis.

Sig. A small spoonful in a wine-glassfu of water every morning.

To continue the local treatment.

Friday, 12th.—Hearing same as yesterday. Air-douche and ethereal vapours applied to the right ear; after which the hearing distance was fourteen inches.

Saturday, 13th.—Right ear, fourteen inches; left ear, one foot.

Left ear treated. After the treatment

the hearing distance was one foot and a half.

Monday, 15th.—Right ear, one foot and a quarter; left ear, one foot and a half.

Right ear treated.

After this the right ear heard the watch at the distance of one and a half foot.

Tuesday, 16th.—Right ear, two feet and one inch; left ear, one foot and a half.

Nostril of the left side too tender to admit the introduction of the catheter without pain. The catheter was introduced into the Eustachian tube of the right side and some air blown in, but the nostril was too irritable to bear the presence of the catheter long enough to finish the treatment.

To apply a leech to the entrance of each nostril.

Wednesday, 17th.—The leeches have been applied.

Right ear, one foot ten inches; left ear, one foot eight inches.

Left ear treated.

Thursday, 18th.—Right ear, two feet four inches; left ear, one foot ten inches.

Right ear treated.

Friday, 19th.—Right ear, two feet and a half; left ear, one foot ten inches.

Left ear treated. Immediately after treatment the hearing distance was found risen to two feet and a quarter.

Saturday, 20th.—Both sides much the same as yesterday.

Right ear treated. After that the hearing distance was two feet ten inches.

Monday, 22d.—Right ear, three feet two inches; left ear, two feet five inches.

Left ear treated.

Wednesday, 24th.—Right ear same as at last report.

Left ear, three feet.

Right ear treated.

Thursday, 25th.—Right ear, three feet two inches; left ear, two feet seven inches.

Left ear treated.

Friday, 26th.—Right ear same as yesterday.

Left ear, three feet.

Right ear treated. Immediately after the treatment, three feet and a quarter.

Saturday, 27th.—Throat sore since yesterday. The tonsils large. Noises in both ears.

Right side, three feet; left side, three feet two inches.

Left nostril too tender to allow the passage of the catheter. Right ear treated.

After this the hearing distance was found risen to three feet and a half.

Monday, 29th.—Both sides, three feet nine inches.

Left ear treated with the air-douche only; after which the hearing distance was about four feet.

Tuesday, 30th.—Right ear, three feet seven inches; left ear, four feet.

Air-douche applied to the right ear.

Scarified the right tonsil.

Wednesday, 1st of May. Right and left ears both about four feet.

Air-douche applied to the left side. After this the hearing distance rose to four feet and a half.

Scarified the left tonsil.

The tonsils to be touched with the lunar caustic pencil occasionally.

Thursday, 2d.—Both ears, four feet.

Right ear treated with the ethereal vapours.

Friday, 3d May.—Right ear, four feet three inches; left ear, four feet four inches.

Left ear treated with the ethereal vapours.

Saturday 4th.—Right ear, four feet and a half; left ear, four feet four inches.

Right nostril too tender to admit the catheter. Left side treated.

Monday, 6th.—Right ear, four feet eight inches; left ear, four feet seven inches.

Right ear treated.

Tuesday, 7th.—Hearing of both ears the same as yesterday.

Air-douche only applied to the left side, after which the hearing distance was four feet eleven inches.

Friday, 10th.—Right ear, four feet and a half; left ear, four feet nine inches.

Nostrils too tender to admit of the introduction of the catheter.

Is going to the country for a week. To intermit all medicines during that time.

Monday, 20th May.—Hearing distance of both ears much the same as at last report.

Right ear treated.

Tuesday, 21st.—Right ear, four feet; left ear, four feet seven inches.

Nostrils too tender to allow the passage of the catheter.

Wednesday, 22d.—Hearing much the same as yesterday. No noises in either ear. Nostrils still tender.

Thursday, 23d.—Hearing still the same as yesterday.

Tuesday, 28th.—The watch is heard at the distance of four feet, but hearing is very dull for conversation.

Tonsils improved, but nostrils still too tender to allow the passage of the catheter without some pain.

Auditory passages pretty well.

In consultation again with Sir James Clark, it was agreed to intermit the use of the ethereal vapours, and to subject the patient to the following treatment:—

1. Six leeches behind and below the ear on one side, and two days after, the same number to the opposite side.
2. A blister to the nape of the neck kept open with savine ointment.
3. Three grains of mercurial chalk combined with extract of conium every night; and a draught of Pulnau water every second morning.

Wednesday, 5th June.—Is going on with his medicines.

Hearing distance by the watch, of right ear, three feet seven inches; left ear, three feet nine inches.

I think he takes part in conversation rather better.

Wednesday, 12th.—Hearing the same by the watch, but continuing better for conversation.

Monday, 1st July.—Hearing continues much the same. Some noise in the ears.

Local treatment resumed.

Right ear treated with the vapours of ether; the perviousness of the Eustachian tube being previously ascertained by blowing through the catheter with the mouth simply.

Tuesday, 2d.—Hearing much the same as yesterday.

Left ear treated.

Wednesday, 3d.—Hearing distance of both sides about three feet and a quarter.

Nostrils too tender to admit the passage of the catheter.

Saturday, 6th.—Nostrils still tender.

To apply a leech to each nostril.

Monday, 8th.—The leeches have been applied.

Tuesday, 9th.—Introduced a catheter into the right Eustachian tube, and injected ethereal vapours, very gently, for about ten minutes.

Wednesday, 10th.—Right ear, four feet; left ear, three feet nine inches. Treated the left ear with the ethereal vapours.

Thursday, 11th.—Right ear treated.

Saturday, 13th.—Left ear treated.

Monday, 15th.—Right ear treated.

Tuesday, 16th.—Hearing continues much the same according to the watch, but the ability to take part in conversation evidently much improved.

Left nostril too tender to admit the catheter.

Right ear treated.

Wednesday, 17th.—Hearing distance of both sides by the watch about four feet.

Left ear treated.

Thursday, 18th.—Hearing the same by the watch.

Right ear treated.

Tuesday, 23d.—Hearing distance of both ears by the watch about four feet nine inches.

As the hearing according to the watch shows no disposition to farther improvement, I think it unadvisable to continue the treatment. The susceptibility to the human voice has, however, increased so much that the patient carries on conversation without any difficulty.

Dismissed, relieved.

Remarks.—The renewed deafness in this case corresponded very closely with nervous deafness, as it is commonly described; but that it was owing to inflammation of one or more of the parts of the ear the history of the case leaves not a doubt. There still existed the enlargement of the tonsils and the chronic inflammatory affection of the mucous membrane of the throat and nose. The frequent aggravation of the state of the latter proved a great hindrance to the employment of the local treatment of the ear; catheterism having been always desisted from when it caused the slightest distress.

All the improvement of hearing according to the watch that was gained occurred in the first six weeks of treatment. But it is to be remarked there was not a corresponding increase in the power to carry on conversation. This only began to manifest itself during the second course of general treatment, and went on under the influence of the renewed local treatment.

ON DR. HOPE'S CLAIM

TO

CERTAIN EXPERIMENTS ON THE SOUNDS OF THE HEART;

WITH SIR BENJAMIN BRODIE'S LETTER OF ARBITRATION.

To the Editor of the Medical Gazette.

SIR,

MY attention has been lately directed to the following note, in a recent edition of a "Treatise on Diseases of the Heart," by Dr. James Hope. It may be necessary to explain, that "a certain gentleman" means *myself*, and that the experiments are those published in the third edition of my Pathology and Diagnosis of Diseases of the Chest. They were performed in February 1835, and were the first successful experiments of the kind.

"These experiments have been appropriated by a certain gentleman. At their *second performance*, on November 3, 1834, I promised him, from friendly motives, the use of them for a forthcoming edition of his book; and immediately before their *final performance*, in February 1835, *I permitted him, as he expressed a wish, to become my conjoint associate, and subsequently lent him my own notes* of the experiments, written almost entirely with my own hand. He detained the notes, claimed the experiments, and *interdicted me from 'pirating' them*. An arbitration by Sir B. Brodie, and a final agreement through Dr. Macleod, *decided that the experiments were conjoint, and that each should publish them as such.* I did so (Appendix to second edition, page v.); he appropriated them. As he has by this measure rejected the participation which I gave him, I resume my *exclusive right as the sole inventor*. His bold pretensions to the invention (*to which he did not contribute either directly or indirectly*) *are annihilated* by a comparison of my *propositions* with the results, and an examination of the date (Nov. 3, 1834) when those propositions were placed in writing in his hands; not to mention the previous confidential performance of the experiments with Mr. Henry James Johnson.

"I am reluctantly compelled to make these remarks, in consequence of *advantage having been taken of a mistake in Sir B. Brodie's arbitration*, to show it to my disadvantage. *Sir B. Brodie mistook the question*, and arbitrated as if I had interdicted the opposite party, and not he me. Notwithstanding, the result *was entirely in my favour; for he decided* (as I contended) *that the experiments were conjoint—not even questioning my right to publish them;* and he further bound the opposite party 'carefully to explain what share he (Dr. Hope) had in projecting and planning the experiments in the first instance.'"—P. 30.

The *spirit* of this attack on me speaks for itself. The *statements* in it are, in the opinion of some friends whom I have consulted, amply falsified by Sir B. Brodie's letter of arbitration, which, with his recent permission, I subjoin. The origin of this letter was this:—Shortly after the performance of the experiments, Dr. Hope, to my astonishment, claimed them as his, and proposed to refer the claims of each party to the arbitration of Sir B. Brodie. To this proposal I willingly assented, and agreed to suspend the publication of them in my new edition until after the arbitration should be made. With this arbitration Dr. Hope at the time professed himself satisfied; but now, four years after, the above quotation will show how he attempts to misrepresent and evade it. The profession will, however, duly respect the decision of this truly honourable and eminent man, himself one of the most successful experimentalists of the age.

14, Saville Row,
March 19, 1835.

My dear Sir,

I understand from yours and Dr. Hope's statements—

1st. That you and Dr. Hope have both been engaged for a considerable time in researches on the pathology of the heart.

2dly. That Dr. Hope formerly instituted experiments, with a view to illustrate this subject, at which he invited you to be present.

3dly. That since then you and Dr. Hope have been in the habit of discussing questions arising out of these experiments, and that you contemplated making other experiments conjointly.

4thly. That you frequently urged Dr. Hope to proceed with the projected experiments, but that his various engagements prevented his doing so.

5thly. That at last *you* applied to Mr. Tatum for the use of the new dissecting room, procured animals for the purpose of the experiments, asked several gentlemen to assist you in making them, and *invited Dr. Hope to them also.*

In addition to all this, I am informed

by some of the gentlemen who assisted you, that the experiments were made almost *entirely under your direction*.

Now, if these statements be correct, I own that I do not see that Dr. Hope can well complain of your making use of the experiments in the new edition of your work now in the press: at the same time I am of opinion that, in doing so, you should be careful to explain what share Dr. Hope had in projecting and planning the experiments in the first instance, and that you should acknowledge whatever assistance you derived from his suggestions at the time of the experiments being made.

I am, dear sir,
Always yours truly,
B. C. Brodie.

Dr. Williams,
Half-moon Street.

With respect to the latter clauses, I can truly affirm, that in my published account of the experiments, I stated *every particular* in which I derived any assistance from Dr. Hope's plans or suggestions, either before or during the experiments. So far from being conducted with reference to any propositions *written* by Dr. Hope *in November* 1834, the experiments were wholly directed by me with the view to decide certain doubtful points described as proper subjects for experiment in the Appendix to my second edition, *published in Sept.* 1833. Some of my friends (Dr. Alison, Dr. Arnott, Dr. Sharpey, Dr. Scott, and Dr. Spittal) may remember that I visited Edinburgh at the meeting of the British Association in the following September, with the purpose of performing these experiments, and that the only reason why they were not then performed was, that fit animals could not be procured at the time. It was not until several weeks *after this*, and *after many conversations with me*, in which I never ceased to argue with him on the deficiencies of his views and former experiments, that Dr. Hope showed me his "*propositions*," and asked my opinion about them. Except in two particulars, the experiments which they proposed were either those that I had already planned to perform, or such as never could be performed; and so I told him at the time. The two excepted points were the precise modes of suspending the action of the valves (by a knuckle and by a bent needle); and as somewhat similar modes (by two fingers and by two hooks) were adopted in my experiments, I gave him the full credit of having planned them*; although it is obvious that no one could pursue the experimental inquiry which I had long before recommended without using some such means.

Your readers can judge for themselves of the correctness of Dr. Hope's statement which I have quoted, by comparing those parts which refer to Sir B. Brodie's letter with the letter itself. I have marked in italics other parts equally untrue; and the most charitable opinion that I can entertain of their author is, that his "private distractions, onerous duties, and excessive professional engagements" (see his preface), have, in the last four years, impaired his memory.

The character of this sample precludes the necessity of my noticing other minor attacks and criticisms levelled at me in his work. They lose their force, and much of their asperity, from the circumstance that they generally admit their author to have been in the wrong; and judging from many wonderful *changes of opinion and fact* exhibited in the third, as compared with the second edition of this work, we may hope that by a still *more wonderful* change, all will be set *right* in a fourth!

I am, sir,
Your faithful servant,
Chas. J. B. Williams.

Half-moon Street,
Aug. 21, 1839.

OBSERVATIONS ON YELLOW FEVER.

By W. Fergusson, Esq.
Surgeon in the Royal African Corps.

[*For the London Medical Gazette.*]

The susceptibility of yellow fever of being conveyed from one person to another, and from place to place, by means of the effluvium arising from the bodies of the sick, is a question which has of late years been occasionally agitated in your own and in other periodicals: the bulk of evidence and of

* "I was present at an experiment attempted by Dr. Hope in Nov. last, at Mr. Field's—he then planned modes of suspending the action of the valves, similar to some of those afterward adopted in my experiments." That experiment failed.—*Pathology and Diagnosis*, &c. 3d edit, p. 170.

authority appear to be ranged on the negative, although the affirmative side of the question has not been without its supporters.

The great magnitude and importance of the question, as well in its scientific as in its political bearing, calls loudly on every one who has had an opportunity of observing the progress of the disease, to contribute something to aid in dispelling the doubt and uncertainty which yet surround it, however obscure the individual, and however humble the contribution. Having had an opportunity of observing the progress of the disease at Sierra Leone on three different occasions, I therefore venture to submit my mite for consideration.

European residents have been many years settled at each of the following places along the coast of Western Africa, viz.—

Place.	By whom inhabited.	Latitude.	Longitude.
River Senegal	French.	16° N.	16° W.
Island of Goree	French.	14 N.	17
River Gambia	English.	13 N.	16
Cackeo	Portuguese.	12 10	16 23
Island of Bissao . . .	Portuguese.	11 51	15 37
Rio Nunez	English, French, Portuguese.	10 36	14 42
Rio Pongo	English, French, Americans.	10 7	13 58
Sierra Leone	English.	8 30	13 —
Accra	English, Dutch, Danes.	5 32	— 13
Anamaboe	English.	5 10	1 7
St. George Del Mina . .	Dutch.	5 5	1 22
Island of Ascension . .	English.	7 54	14 26

Of the above-named places epidemic yellow fever has appeared in the Island of Goree once (1837), in the River Gambia once (1837), at Sierra Leone four times (1823, 1829, and twice in 1837), at the Island of Ascension twice (1823, 1838).

The disease is totally unknown, and has, I believe, never appeared at any of the other stations above named, and several of these have been colonized by Europeans one and two hundred years.

It is by no means a comfortable reflection to those whose lot is cast in such a land, that they incur a constant ability to such irruptions of disease as that which lately desolated Sierra Leone, against which neither prudence nor great care are of any avail as a safeguard: hence it is not to be wondered at, that, on former occasions of the epidemic irruption of yellow fever at Sierra Leone, there were many persons who sought out with great diligence every circumstance tending to show that the disease was not a sporadic, but an imported one. The evidence in proof of an object so desirable entirely failed; and it is now, I believe, admitted by all classes at Sierra Leone, that on every occasion of its appearance there, it has been the undoubted product of the colony itself.

But while it appears thus clear that at Sierra Leone the disease has never been an imported one, there are, on the other hand, facts sufficiently numerous and cogent to encourage a rather confident opinion, that, at every other part of this station where it has appeared, it has on every such occasion been of imported, not of sporadic origin.

Before going into details, it may be here stated generally, that wherever the disease has appeared on the West African station, at places other than Sierra Leone, such appearance has on every such occasion been preceded, within a very short time, by the arrival of a vessel having the disease on board, and the actual disembarkation of the sick at that place; and that the disease has never appeared at any part of the station, other than Sierra Leone, excepting after such arrival and disembarkation of persons labouring under it.

Though the observations which I am about to adduce on this much controverted matter are at variance with the opinions entertained by many persons whom I am bound to regard with much professional respect, yet I see nothing which ought to deter me from an honest, and I hope not a dictatorial or presumptuous, statement of my own experience: to this I will add the information

which I have derived from sources worthy of credit, and the conclusions legitimately deduced from our united observations.

To begin with the Island of Ascension. It appears, as stated above, that epidemic yellow fever has prevailed there twice, viz. in 1823 and in 1838. With respect to its appearance there in 1823, it appears by the report of Dr. William Barry, then staff-surgeon, that yellow fever broke out at Sierra Leone in December 1822, and prevailed, with more or less of severity, during the ensuing six months.

The Bann sloop of war arrived at Sierra Leone (it does not appear when), and departed on the 27th March, with "three fever cases on board." Shortly after her departure, the fever cases accumulated so rapidly, that, instead of proceeding to the Island of St. Thomas, as was originally intended, she went to Ascension, and there debarked her sick.

The Bann had communication with the Driver sloop of war at Ascension; with what consequences to the garrison there, and to the crew of the Driver, is shewn in the following extract of an official report of Assistant-surgeon Sinclair, then serving in the Bann:—"Between her arrival (at Sierra Leone) and the departure of the Bann for Ascension on the 27th March, several cases occurred, and the ship left Sierra Leone with three fever cases on board; in a very few days the fever attacked so many, that, instead of touching at St. Thomas, as was the original intention, for cutting wood, she was obliged to proceed to Ascension direct: she arrived there on the 25th April, but the fever had already committed such ravages on board, that scarcely a sufficient number of men were left to carry the sick on shore.

"The Driver arrived at Ascension on the 2d May, at that time very healthy, as well as the garrison on shore; but the Bann had already buried 32 men. All intercourse between the garrison and the sick tents of the Bann was forbidden, and as much as possible between the men of the Bann and those of the Driver.

"In a few days an Admiralty clerk belonging to the Driver, sent on board the Bann to assist at a survey, and Capt. Sawmarez and his servant, sent to join the Bann, were all seized with fever. About the same time the fever made its appearance among the garrison ashore, in the family of a soldier's wife, who had been washing for one of the Bann: it first seized a boy, and then the woman herself, and in a few days four men belonging to the garrison were attacked. Of the crew of the Bann, consisting of about 130, not so many as ten escaped fever, and 38 died; and of the Island of Ascension, the garrison consisting of 36 souls, five only escaped fever, and 17 died; and of about eight from the Driver, who were exposed to the contagion, four were seized, and three died."

The disease did not again appear at the Island of Ascension until 1838. My information is not sufficiently precise as to the date of its breaking out; however, the events by which that irruption was preceded have been sufficiently ascertained.

H. M. brigantine Forester arrived at Sierra Leone from England on or about the 5th December, 1837, and remained there four or five days, a time when epidemic yellow fever prevailed extensively in the harbour; the disease broke out among the Forester's crew a few days after she left Sierra Leone, on which she proceeded to the Island of Ascension. Lieutenant Rosenberg (the commander) and several of the crew died before the vessel reached that place.

On her arrival there the sick were disembarked at Comfort Core, a place variously reported to me as being from one to three miles from the barracks, where the garrison is quartered.

A rigid quarantine was established on the sick at Comfort Core.

The wearing apparel of the deceased commander, Lieutenant Rosenberg, was, I have been told, taken on shore, and there sold by public auction in the garrison,—the clothes, however, had been previously well and thoroughly washed on board. The disease broke out in the garrison about four weeks after the Forester's arrival, and proved fatal to the commandant, a medical officer, and many of the marines. I regret that dates and numbers are wanting in this statement; the correctness of the main fact may, however, be confidently relied on, viz. that the disease on this, as on the former occasion, did not appear among the garrison at Ascension until after the arrival of a sickly ship, and the actual debarkation on the island of persons labouring under the disease.

These two are, I believe, the only occasions on which the disease has appeared at Ascension; they are, also, I believe, the only occasions on which persons labouring under the disease have been landed there.

With respect to its mode of introduction at the Gambia.

H. M. brig Curlew having been appointed to cruise on the windward part of this station, was several times in the harbour of Freetown, Sierra Leone, in May 1837, a time when epidemic yellow fever prevailed there; she left Sierra Leone to proceed to Gambia about the middle of May, and a few days thereafter, while on the passage, the disease broke out among the crew. She arrived at Bathurst, on the Gambia, on the 4th June, and Mr. Tebbs, the Colonial surgeon, who was at that time also in medical charge of the troops, had the sick all removed from the vessel, and taken, not to the hospital, but to his own house, the ground floor of which he had fitted up as an hospital for merchant seamen. Fifteen of the crew died.

Mr. Tebbs, who is reported to have been most diligent in his attendance on the sick, was laid up with the disease on the 17th, and died on the 20th June. A European boy, who had assisted Mr. Tebbs some years as a dispenser of medicines, and whose conduct is also spoken of in terms of high praise, followed his master to the grave in a few days, having been cut off by the same disease. Thirty-three days after this the disease appeared in the house next to that of Mr. Tebbs on one side, and immediately thereafter in the house next to that of Mr. Tebbs on the other side: it then followed an eccentric course over the town, and carried off more than one half of the European population.

The Island of St. Mary, in the River Gambia, has been colonized by Europeans twenty-two years. I have conversed there with several intelligent Europeans who have resided either at Gambia, Senegal, or Goree, uninterruptedly, upwards of thirty years, and by them I am assured that they never either witnessed or heard of the disease at Gambia until the period of the Curlew's arrival there.

The total absence of any mention of the disease in the army medical returns or reports from that part of the station serves to corroborate these statements.

It is clear, then, that at the Gambia, as at the Island of Ascension, epidemic yellow fever has never appeared but within a short time after the arrival and debarkation at the settlement of persons labouring under the disease, and that this was the only occasion on which persons labouring under the disease have been landed here.

Epidemic yellow fever having, as above stated, appeared at the British settlement in the River Gambia, and having for some time successively carried off every one whom it attacked, great consternation and alarm were in consequence excited, and several persons, who had it in their power to do so, departed from the place.

Mr. Heddle, a respectable merchant of Bathurst, was among those who migrated. He left Bathurst for the Island of Goree on the 9th of August, accompanied by Mr. Stubbs (an English gentleman) and Mons. Imbert, a resident of Goree, all in good health: the vessel arrived at Goree on the 12th.

Mons. Imbert was attacked with fever on the passage, and was landed in that state at Goree on the 12th; he was taken to his mother's house, and by her he was attended in the most assiduous and affectionate manner until he died. The separation of mother and son was, however, of short duration; for, the same day on which Mons. Imbert died, his mother was attacked with fever of a similar description, of which she died in four days.

Meantime Mr. Stubbs, the other passenger, was attacked with fever on the 12th (the day of arrival at Goree), and died on the 16th.

Mr. Forster, a respectable merchant of Bathurst, left Gambia for Goree on the 17th August, accompanied by Mr. A. Hunter, the Colonial Secretary. Mr. Hunter was attacked with fever on the 19th, which terminated in "black vomit" and death, at Goree, on the 21st.

Between three and four weeks after the occurrences herein detailed, epidemic yellow fever broke out at Goree, and carried off a vast number of the population.

Goree has been colonized by Europeans upwards of 90 years, and it does not appear, either from written record or oral tradition, that the island was ever visited by yellow fever before.

It is hence as clear as any available evidence can make it, that, like the

Island of Ascension and the British settlement on the River Gambia, the Island of Goree has only been visited by epidemic yellow fever on occasion of the arrival and debarkation there of persons labouring under the disease.

The negative evidence afforded by the progress of the disease on this station appears to lead to conclusions precisely similar to those deducible from the positive evidence.

To begin again with the Island of Ascension. It has been shewn that epidemic yellow fever broke out at this place in 1823, and again in 1838, on each occasion shortly after the arrival and debarkation there of persons labouring under the disease. On each of those occasions (if the views herein developed are correct) the disease was conveyed to Ascension from Sierre Leone, but the disease also prevailed epidemically at Sierra Leone in 1829, on which occasion, although several vessels of the squadron carried it away from that place, it does not appear that in that year any person labouring under it was disembarked on the island. In that year the island wholly escaped its ravages.

The fortresses on the Gold Coast have been colonized, I believe, since the middle of the 17th century: it does not appear that epidemic yellow fever has ever been known there, neither does it appear that persons labouring under the disease have ever been landed there.

The several places at which Europeans reside betwixt Sierra Leone and the River Gambia (some of which, such as the Island of Bissao, have been colonized upwards of two hundred years), have never, so far as I can learn, been visited by yellow fever.

I conversed on this subject at the Island of Bissao with several of the oldest and most intelligent Portuguese residents, and was assured that neither while the disease prevailed at Sierra Leone in 1823, 1829, 1837, or 1838, nor on any other occasion, has it ever appeared at that island.

It is, I think, difficult to account for the total exemption from the disease enjoyed by those places, and its appearance at Gambia and Goree, on any other supposition than this, that those intervening places have never been visited by persons labouring under it.

Ascension, on the one hand, and Gambia and Goree on the other, are the extremities of lines radiating from a centre at Sierra Leone; and were the epidemic appearance of the disease at those extremes to be accounted for by the influence of a generally pervading atmospherical cause, wherein lies the cause of exemption at the numerous intervening stations? and by what means did the disease at once jump from the centre to the circumference?

The connecting links in the chain, from the nucleus of the disease at Sierra Leone to its development at Ascension, Gambia, and Goree, appear to me to have been on every occasion sufficiently obvious, continuous, and unbroken, to render the other mode of accounting for its appearance at those places exceedingly probable, and in the present undecided state of positive knowledge on the subject, that which is least beset with difficulties.

The disease, as has been shown, having been conveyed from Sierra Leone to Gambia, and thence to Goree, occasioned the greatest alarm at the French settlement of Fort St. Louis, on the Senegal, the authorities there acting on the supposition that both at Gambia and Goree the disease had been imported, established a rigid system of exclusion on all vessels from either of those places so long as the epidemic should continue.

The settlement on the Senegal was not visited by the epidemic, neither has that settlement, so far as I can learn, ever been visited by persons labouring under the disease.

It may be considered necessary that some proof should be offered as to the perfect identity of the disease stated to have at times prevailed at the different places above mentioned, and to have been conveyed from one place to another.

With the means of information which I possess, it may be difficult to accomplish this, otherwise than by the evidence afforded by the occurrence of the symptom called "black vomit." This symptom is by no means invariably developed in every case—not even in such cases as terminate fatally—but wherever on this station yellow fever has prevailed in a district, the occurrence of that symptom has been sufficiently frequent to stamp a character on the epidemic not easily to be mistaken—and that symptom was of very frequent occurrence in each of the several epidemics stated above to have been identical with the parent yellow fever of Sierra Leone.

I must in candour state, that the views

adduced in this paper have been dissented from by several of my professional friends of the sister service, now or lately serving on this station, while others have agreed with me.

It has been stated to me that the last irruption of epidemic fever at Ascension (1838) was caused by an extraordinary accumulation of mud and filth in a pit, after an unusually heavy fall of rain. Without questioning the efficacy or the competency of such a cause, I may merely observe, that it is somewhat singular that the power of the mud-pit to generate epidemic yellow fever should have remained dormant until after the actual importation into the island of that disease by the sailors of the Forester; but granting that the pit-full of mud and filth at Ascension was the real cause of the late epidemic at that place, the origin of the epidemics at Gambia and Goree still remain to be accounted for, if that which I have assumed as the correct, or at all events the most probable mode of accounting for their origin, is considered mistaken.

It will be observed that at Ascension, at Goree, and at Gambia, a period of three or four weeks always elapsed betwixt the landing of the sick and the epidemic outbreaking of the disease among the population,—a degree of uniformity worthy of remark, whether the conclusions at which I have arrived be mistaken or not.

Sierra Leone, 10th May, 1839.

DR. KRAUSS ON PARISIAN HOSPITALS AND PRACTICE.

To the Editor of the Medical Gazette.

Sir,

Should the following observations made in a late excursion to Paris appear to you worthy of publication, I shall feel much gratified by their insertion in your excellent journal.—I remain, sir,

Your most obedient servant,

Gustavus Krauss, M.D.

15, Maddox Street, August 17, 1839.

During my late visit to Paris, I several times attended the practice of Dr. Ricord at the *Hôpital des Vénériens*, and was gratified as much as formerly by his skill and attention. He has scarcely made any alteration in the treatment of syphilitic diseases. I found that he more frequently used the hydriodate of potash in cases of general syphilis than at my last visit two years ago. He begins with small doses, and goes on till the quantity daily taken amounts to sixty grains.

M. Ricord continues to treat both chronic and acute inflammation of the testis by compression with strips of sticking plaster. He also uses compression with success for buboes, particularly when they have passed into a chronic state of induration. In blenorrhagia of the urethra (gonorrhœa), especially in obstinate cases, M. Ricord continues to employ *mêches*, and cauterization by means of Lallemand's *porte-caustique*; believing that the most essential condition to the cure of diseased mucous membranes is to prevent their parietes from touching each other; and, in general, that superficial cauterization with the nitrate of silver is a very powerful remedy in these inflammations.

I use these remedies very frequently in London, and not without success; yet the results in Paris seem to me to be even more satisfactory, perhaps owing to the influence of climate.

The Parisian surgeons continue to tie varicose veins with success. Ricord passes a ligature round the vein, and then fastens the ends of the thread over a piece of elastic bougie. Velpeau continues the method which he has employed these three years; that is, to introduce a fine pin round the vein, and then to tie the vein and skin with a ligature passed round the pin, like a figure of 8. It is worth remarking, that the French surgeon do not meet with the dangerous accidents which are feared in England after the ligature of veins, though this operation has for several years been frequently performed in Paris. But cases for the operation must be carefully selected. Thus, in a case of varicose veins in the leg, I heard Velpeau declare that it was not suited for the operation on account of the great number of affected vessels. It is delightful to see this eminent practitioner going from one patient's bed to another, and examining each case with untiring zeal. Pressure, and counter-irritation by blisters, are still Velpeau's favourite remedies; as is also the starch bandage for fractures, as a substitute for more complicated apparatus; and nitrate of silver in the forms of solution and ointment for various inflammations of the eye. I was somewhat surprised to see the heavy

bandaging of wounds and stumps with heating masses of charpie, and was astonished that Velpeau and other Parisian surgeons had not adopted the cooler method of bandaging used in English hospitals.

The Charité, through its able surgeon, attracts students more and more, as well as young physicians both native and foreign; and, assuredly, the clinical lectures which M. Velpeau gives almost daily, after going round the hospital for two hours, are amongst the very first in Paris both for clearness and solidity.

The section of tendons and muscles continues to be practised with success, but almost solely by those who have specially dedicated themselves to the cure of deformities. Dr. Duval continues to give orthopedic consultations at the *Bureau central d'admission*, which afford him continual opportunities of showing his talent in performing this operation; Drs. Bouvier and Guérin have a fixed number of beds for patients of this class at the *Hôpital des Enfans malades*. Dr. Bouvier has, moreover, a small orthopedic ward at the *Hospice des Orphelins*, where I had especial opportunity of convincing myself of the success of this method. I am more inclined to mention this circumstance, as a late English writer, in the preface of his work on Club-foot, says, that Dr. Bouvier's method is totally inapplicable to the more severe cases. I suppose, though I am not quite certain, that this objection refers to the time of beginning the extension; and though I do not advocate immediate extension, yet I must confess that a glance at Dr. Bouvier's dissertation on the cure of Club-foot will show that although he recommends immediate extension, yet he uses it with such moderation, and so gradually, as to avoid any possible danger; a fact of which I have convinced myself by inspection. It was at any rate important to show that while Stromeyer formerly allowed eight or ten days to elapse, before he ventured on extension, it may be begun with advantage much sooner.

If, however, the remark of the above mentioned writer refers to the mode of the mechanical after-treatment, I must remark, that Bouvier's mechanical treatment possesses obvious advantages above Stromeyer's; and that the orthopedists of Paris, whose skill is universally acknowledged, without any exception consider Stromeyer's apparatus insufficient, especially for the more severe cases of club-foot; a circumstance which must have a certain weight in the balance.

The memoir which Dr. Jules Guérin read at one of the late sittings of the *Académie des Sciences*, on subcutaneous wounds, and the section of the muscles of the back for the cure of spinal deformities, excited the universal attention of the Parisian medical world; yet they are not quite convinced of the correctness of his opinions; and Dr. Bouvier, in particular, has opposed them.

Without failing to recognise the importance and merits of Dr. Guérin's researches on subcutaneous wounds, we must wait for the further development of his views, to be perfectly convinced of their correctness.

The entrance of air may possibly be an unfavourable circumstance in the cure of subcutaneous wounds; yet it is a fact, that in the section of tendons, even when it is effected by the simplest incision, air frequently enters the wound which may be expelled upon the spot, and is driven out with a particular noise. Yet in such cases the wound heals without suppuration; so that one might suppose that the joining of the lips of the wound with sticking plaster in the usual manner, prevented the farther entrance of the external air, and favoured the healing without suppuration, were it not that we find that even when the lips of the wound are not united by sticking plaster, it still heals without suppuration; so that in this case we are driven to the supposition that while the small cutaneous incision closes through the plastic process of healing, the farther entrance of the external air is prevented. Yet on the other hand, it sometimes happens that on the 1st, 2d, or 3d day, the incision is not yet closed, which is known by its secreting serum, and the wound still heals without suppuration.

A case of section of the tendo-Achillis occurred in my own practice, where in consequence, probably, of the patient's taking cold, inflammation came on and an abscess formed in the incision. About eight days after the operation, when the inflammatory swelling and the suppuration had decreased, I clearly perceived that the air had free entrance, for on pressing the wound it was driven out with a gurgling noise; yet, in spite of this, the tendency of the wound to heal was very manifest. This same case shewed me that there is a difference

in the mode of union of divided tendons, according as suppuration follows the incision or not, for the intervening substance, which, in the first four or six weeks after the operation, felt like a flat thin ribbon, very gradually increased in circumference, until at last, in three or four months after the operation, it attained the size, which in other favourable instances it reaches in three or four weeks. Future experience will shew whether the advantage is to be derived from subcutaneous incisions which M. Guérin expects. They seem to be applicable to some divisions of tense parts *(débridements)*, as, perhaps, to the operation for incarcerated hernia, provided the principle is observed, that we may divide unyielding and tense parts withous injuring the nearest soft and yielding parts; just as we divide the tendo-Achillis without touching the sheath which envelops it.

Universal astonishment was excited by the proposition which M. Guérin put in execution of dividing the muscles to cure spinal distortion. I was assured by M. Guérin that in one case the result was so instantaneous that the muscles contracted with a peculiar noise, and the distortion for the greater part disappeared. In the other cases, he said, the result was less immediate.

As far as my present conviction goes, I do not deny the admissibility of the section of the muscles for this object in certain cases, though I believe that their number is somewhat limited. It is acknowledged that the muscular system has less to do with producing and keeping up the distortion of the spine, than it has in producing distortion of the limbs and of the neck. In the latter case the tenderness of the muscles is easily recognized, but in distortion of the spine this is very rarely the case. The more careful examination can for the most part detect no tension of the muscles on the concave side of the distortion, even if we put the body in a posture which has the greatest possible influence in removing the distortion. In the public consultations at the *Bureau central d'admission*, I particularly attended to this state of the muscles of the back in distortion of the spine, and, together with other physicians, carefully examined no inconsiderable number of girls affected with lateral distortion; yet our search for muscles in a state of tension was in vain, with the exception of muscles on the concave side of the lower or lumbar distortion, which sometimes were tense in a slight degree: yet even this seemed rather to be caused by involuntary contraction of the muscles arising from the examination.

M. Guérin maintains that it is easy to put the really shortened muscles, which are only apparently not in a state of tension, into a state of tension and prominence. I do not understand how this can be possible, otherwise than by putting the distorted parts into a situation which strives, as it were, to produce a straightening of the distortion. The shortened state and the tension of the muscle can escape observation only when the muscle is too deep, and lies close to bony parts, which is not at all common.

In distortions of the limbs we see that the deformity yields to appropriate mechanical force, when the resistance of the muscles has been taken off by the division of tendons; but this resistance may be recognized by the tense state of the muscles. It is not justifiable to divide a muscle or its tendon, unless the symptoms of a real shortening of the muscles are present. (This may also be applied to the section of the tendon of the tibialis posticus, which appears to have been often performed without reason).

During my stay in Paris, the body of a girl, aged 9, with lateral distortion of the spine, was brought into the amphitheatre of the *Ecole pratique*. There was a distinct distortion towards the right, belonging to the thoracic vertebræ, and a lumbar distortion, much less important, turning to the left. There were no signs of rickets. Dr. Bouvier examined with care the relation of the muscles to the distortion of the spinal column, the muscles on both sides, when measured, scarcely differed either in length or breadth; and there was but little difference in their colour.

There was no tension of the long muscles of the back on the concave side of the thoracic distortion; but the trapezius on this side was more tense than that of the convex side, on account of the greater distance of its points of insertion.

If one tried by extending the vertebral column together with lateral pressure to straighten the curve, (which was possible to a certain extent), still it could not be perceived that the muscles became tense, and their section had no influence in removing the distortion.

This case demonstrated upon the dead body, what is commonly seen when we examine the living one.

I will mention in conclusion that during my stay in Paris I had the opportunity of seeing several very interesting dry preparations of club-foot; partly in the private collection of Dr. Bouvier, and partly in the *Musée Dupuytren.* Several of these preparations were taken from adults, and belonged to congenital varus. They showed me that lateral rotation of the astragalus round its long axis was much nearer and of a less intensity than I had formerly believed. In six cases of congenital varus there is no perceptible rotation of the astragalus round its long axis; in one case of double varus there is an empty space between the astragalus and the articular surface of the inner malleolus; while the os naviculare, with that surface which in the healthy state is joined to the anterior surface of the process of the astragalus, lies on the inner side of that process.

I am inclined to believe that lateral rotation of the astragalus round its long axis is for the most part only apparent, and is to be attributed to that change in form which the astragalus pretty often experiences through the flattening of its inner surface.

The absence of this rotation of the astragalus round its long axis is a very favourable circumstance for the cure of varus.

CASE OF UNUNITED FRACTURE OF THE FEMUR,

TREATED BY EXCISION OF THE ENDS OF THE BONES.

By T. B. Peacock, Esq.
House-Surgeon, Chester Infirmary.

[*For the London Medical Gazette.*]

Thomas Jones, aged 18, from the neighbourhood of Llangollen, thin, and somewhat sickly-looking, was received into the Chester Infirmary, under the care of Mr. Bennett, on the 20th of November, 1838.

He stated that on the 1st of March his thigh had been fractured by the tree of a threshing machine: he was seen by a country practitioner, who applied four short splints reaching the length of the thigh; they remained on for five weeks and three days, and, having then become perfectly loose, were removed, a bandage being applied for three weeks longer, when he was allowed to move about.

At the time of his admission he had entirely lost all power over the limb, which was at least two inches and a half shorter than the other, and allowed the most extensive motion in the seat of the injury without any complaint of pain. The fracture, which had been transverse, extended across the union of the middle and lower third of the bone; the two portions were widely separated; the upper projected superficially in front, while the lower was drawn up, and to the inner side: the fragments, when rubbed together, conveyed the impression of a soft body interposed between them.

Notwithstanding the length of time which had elapsed since the occurrence of the accident, it was thought desirable, before having recourse to an operation, to try the effects of extension and friction of the ends of the bones together, which was accordingly done, and the limb then placed on Liston's modification of Desault's straight splint, and tightly bandaged transversely. At first he complained of considerable pain in the seat of the fracture, but after some time, no advance having been made, and the boy feeling very averse to lose his limb till every chance had been afforded him, it was decided to excise the ends of the bones. The operation was performed by Mr. Bennett on the 3d of January. An incision was made on the outer side of the limb in the usual way; the upper fragment, being situated superficially, was readily exposed, and about one inch removed from its extremity. In turning out the lower portion more difficulty was experienced, but at length it was accomplished, and about an inch and a quarter excised. The pieces removed were both extremely atrophied, being indeed reduced to a mere shell of bone filled with fatty matter: they were pointed and smooth, the opposed surfaces being covered with an imperfect kind of cartilage. The wasting had proceeded to a greater extent in the lower than the upper portion.

The operation did not occupy a great length of time, and but little blood was lost during its performance. The bone being brought into its natural position,

the limb was placed on the double inclined plane. In a few days the whole external incision had united, except opposite to the extremities of the bone. In some time longer suppuration ceased entirely, and the limb had recovered a considerable degree of firmness. This favourable condition was, however, of very short continuance. Abscesses formed; a large sinus followed the course of the bone to the trochanter; the limb became as loose as ever; hectic set in; and it was evident the only chance of life afforded him was from amputation. To this he submitted on the 2d of April: the operation, however, produced no improvement in his state; he continued to grow weaker till the 19th, when hæmorrhage took place from the stump, and he died in a few hours. On examination of the limb, the muscles were found pale, watery, and emaciated; the cellular membrane loaded with serum; the arteries, when injected, were scarcely half the size of those in a healthy limb. The upper fragment, to a little below the trochanter where it had been sawn across in the amputation, was reduced to a mere shell, at its widest part not more than the tenth of an inch in thickness: the lower fragment was still thinner; indeed, where the two portions had lain in contact, the texture was entirely absorbed. The atrophy extended through the whole lower part of the bone: at the knee it could be easily cut with a knife. The tibia and fibula were thinned to nearly as great an extent, and the bones of the foot were also perfectly soft, the solid portions being replaced by marrow.

The bones now macerated afford the most marked specimens I have seen of the excentric atrophy described by Mr. Curling, in the 20th volume of the Medico-Chirurgical Transactions. I am induced to publish this case, not for its rarity, since such operations have frequently been performed, and their result has usually been the same, but to draw attention to the pathological condition of the bones—a condition the existence of which has been overlooked, but which will, I think, be found of frequent occurrence, and sufficiently explains the want of success which has usually attended all plans of treatment adopted to bring about union in bones which have remained fractured for a considerable length of time.

It has been shown by Mr. Curling, in the interesting paper to which I have referred above, that in fractures of the cylindrical bones, the portion deprived of the supply of blood furnished by the nutritive artery, being supported only by the small periosteal branches, undergoes a gradual atrophy; the spongy portion increases, while the solid parts experience a gradual thinning; the natural texture being restored only when the perfect union of the fractured ends has allowed the supply of blood to resume its usual course. A bone, therefore, which remains ununited, must be subject to a continued process of atrophy, till, after a longer or shorter interval, its natural texture is so completely lost, that no plan to which we can resort is at all likely to restore the healthy action of the parts.

Chester, August 14th, 1839.

ANSWER TO THE

NOTE OF T. WHARTON JONES.

By Dr. Martin Barry.

[*For the London Medical Gazette.*]

The observations of T. Wharton Jones, contained in last week's number of the Medical Gazette, reduce the whole of the matter in dispute to a mere question of priority as to the disoovery in the mammiferous ovum of the germinal vesicle and the germinal spot. On that question the Editor of the Medical Gazette says, p. 805, "a comparison of dates will determine the mere matter of priority." I adopt his criterion, and, giving the dates, as proved by publication, I leave his readers to judge to whom the priority rightfully belongs. By a glance at those dates, every candid critic will be able to determine whether any one in this country can participate with the professors on the continent in the honour of those discoveries.

Valentin and Bernhardt, having published an account of the germinal vesicle in October 1834, and R. Wagner having sent to Müller's "Archiv" an account of the germinal spot in the same year, the discovery of both the vesicle, and the spot on the *inside* of it, were made known to the world previously to T. Wharton Jones's publication of his discovery of the germinal vesicle, and (the object he now

supposes to have been) the germinal spot, in June 1835.

Yet T. Wharton Jones claims the priority of discovery of both vesicle and spot—a claim which the dates above stated satisfactorily refute.

One word more, with regard to the object which T. Wharton Jones supposes to have been the germinal spot. The description he has given seems to belong to a body, not *within*, but *external* to the germinal vesicle, and, if so, one that cannot in reality have been the germinal spot. His description is this:—"On one side of the vesicle there is a small *elevation*, which, *projecting among* the grains composing the walls of the granulary sac, *fixes the vesicle in its place**."

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By RUTHERFORD ALCOCK, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(*As delivered in his Lectures at Sydenham College School of Medicine.*)

[Continued from page 583.]

I.—INJURIES OF THE CHEST.

Three classes of injuries: 1. *Superficial*; 2. *Simply penetrating*; 3. *Wounding parts within.—Why superficial are erected into a distinct class.—Two cases illustrating the fatal consequences occasionally of these.—Singular deposition of lymph in pelvic cavity attending injury of thorax.—Uncontrollable nature of inflammation, and inefficacy of bleeding.—General progress of severe cases when favourable.—The reverse.—Some accidental complications.*

IN the preceding lectures, gentlemen, your attention has been drawn to the more important distinctions in the nature and treatment of complicated injuries of the extremities, of the head and spine. The injuries of the thorax, abdomen, and pelvis, next require consideration; no less fruitful in varieties and complications generally serious in their consequences, and but too frequently fatal in their ultimate results.

In these injuries we observe the effects of violence upon another class of organs, intimately connected with the existence of the animal, with the organs and functions, the chief instruments of *organic* or *vegetative*, in contradistinction to *animal* life—the organs on which respiration and circulation chiefly depend.

A comparison involuntarily suggests itself between this class of wounds and those of the head containing the central and chief organ of animal life—between some striking features of resemblance and of dissimilarity. Both present shut and serous-lined cavities, covered and defended from external violence by bone or cartilage, muscle and integuments. Each sac contains the chief and most important organs of the two systems of animal and organic life; giving rise, when injured, to many varied and very complicated effects and symptoms. Here the leading points of resemblance cease.

Let us turn to the brain. In its injuries, we find the ganglionic system often escapes altogether; only secondarily affected when, from violence to the head—rarely until the functions of the brain are not only impaired, but more or less completely abolished.

Precisely contrary results are observed in blows or wounds of the chest. The first shock is always felt in the ganglionic system, in the disturbed actions of the heart and lungs; two of the principal organs of organic life over which the ganglionic system presides. The brain or cerebral system often does not, in the first instance, even sympathize, although the injury be severe; it never bears the first shock; the other organs of vegetative life are far more prone. The cerebral functions are often unembarrassed to the last, unless previously involved by the disturbed and imperfect performance of the purification and circulation of blood, from which the brain draws nutrition and healthy stimulus.

I recal these general facts to your mind, that it may be the more clearly seen where the manifestations of injury are to be sought for. In wounds of the chest, what classes of functions will be the earliest impaired, and in what order and degree? You see at once that the organic functions throughout the body must be those first and chiefly affected. The cerebral system and the functions of animal life, but secondarily; and the first is through sensation. The consciousness of pain; but this even uncer-

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* MED. GAZ. Jan. 27, 1838, p. 684.

tainly, for I have seen fatal cases where scarcely any pain existed. The manifestations of the urgency and nature of the action following an injury of the thorax, are to be sought for in the respiration, the circulation, the degree and site of pain ; in the functions of the skin, liver, and kidneys ; in the chylopoietic viscera generally.

In the order here indicated, should the investigation proceed, the indications these afford, the relative modifications of injuries, their symptoms and effects, and, finally, what are the chief varieties of these injuries, and their leading distinctions, I will shortly state to you, as far as I have been enabled, in an extensive range of cases, to determine.

There are three distinct classes of injuries of the thorax, each sufficiently broadly defined, and different both in nature, progress, and results.

1. Injuries of the parietes or walls solely, without penetrating the cavities.

2. Injuries penetrating merely, and not injuring the contents.

3. Injuries causing lesion of the contents of those cavities, the heart or lungs.

In this order do they stand, in relative importance and danger.

It would be unnecessary to erect the superficial wounds of the parietes of the thorax into a separate class of injuries, which in themselves and the parts immediately implicated offer no peculiarities, were it not that occasionally simple wounds or injuries, in this situation, subsequently involve the important parts beneath, and produce all the worst consequences of the most complicated. Hence they require careful watching, to observe the first symptoms of such a progress, and arrest the diseased action before it has time to gain violence or work effects beyond the power of medicine to remedy.

The following cases shew the dangerous and peculiar course which these superficial wounds of the parietes of the chest sometimes run :—

Case of a complicated Superficial Wound, subsequently implicating the Lungs and Heart, disturbing their Functions.

James Conroy, wounded May 5, 1836. A musket-ball struck him one-fourth of an inch above the acromion process of the scapula, and, passing deep under the supra spinatus muscle and integuments of the back, fractured the spine of the scapula, and was extracted near the inner edge of the scapula of the opposite side.

Up to the tenth day, there was no constitutional disturbance, nor chest symptoms of any kind, to denote internal mischief. At this time the discharge became more abundant, amounting quickly to half a pint daily. This continued to the 18th, when it gradually ceased ; the wound filling up from the point of the ball's exit.

On the twentieth day a sinus was detected, deep seated, and of considerable size, and about four ounces of healthy matter pressed out. He was placed on a low diet, and the sinus rapidly healed, with the aid of compresses. About the thirtieth day the sinus seemed again to open, and the discharge began gradually to increase ; several pieces of bone were detected in the track of the ball, and removed. Notwithstanding, the discharge became thin, green, and at last fœtid ; the pulse accelerated and small ; countenance pale and dejected ; hot skin ; and headache. The sinus was laid freely open, and more pieces of bone extracted.

On the thirty-fifth day a slough detached in the course of the opening, and exposed the scapula for about two inches. The sinus was found to extend across the back, and several pieces of slough continued to be discharged with the pus, the character of which varied much from day to day, increasing to a pint and a half daily. Compression was again resorted to : the bone became covered, but the constitutional symptoms aggravated ; and the parts within the chest began to give evidence of being implicated. In a few days he complained of pain shooting from the wound to the chest ; pain on inspiration ; cough ; hurried breathing ; and intermittent pulse. The compressive straps were removed, and pieces of comminuted bone were felt adhering to the sides of the sinus across the back. A slight blush appeared round the edges of the wound, and in two days extended across his back. Thirty leeches were applied, a second time repeated, and his bowels well opened.

He still continued to deteriorate, the erysipelatous blush extending over his chest, from which he was relieved by frictions of Ung. Hyd. fort. ; but the

discharge continued increasing to an immense quantity. The sinus shewed a disposition to extend over the shoulder, and burrowed deeply and extensively in the back; and notwithstanding that free incisions were made wherever they seemed required, he became worse. Voice scarcely audible; tongue black and coated; discharge excessively fœtid; sloughs appeared on the sacrum. The greatest attention was paid to the case; the sores were examined three times a day, and matter pressed from the cavities and sinuses, while his strength was carefully supported. After a struggle of some duration, he rallied; the wounds healed up well and rapidly; his constitution not recovering until long after, from a state of extreme debility. No permanent affection, nor any organic disease of the lungs, though at one time apparently inevitable, seemed to remain as a consequence.

This is a case of complicated, but, there is every reason to believe, of superficial injury, not implicating the organs within, or the cavity of the chest, until the eightieth day, and then to an alarming degree. It illustrates the mode in which superficial injuries may ultimately cause all the worst consequences of a more serious and penetrating injury, and points out the necessity of watching such cases, and without delay using every effort to arrest any untoward action that may arise.

I have known tetanus follow a superficial wound of the chest, of which the following is an instance:—

Robert Smith received a flesh wound of the breast on May 5th, 1836, which, up to the 9th day, presented no deviation from the usual symptoms and appearances.

On the 10th day the slough separated, and a discharge of healthy pus was established; but he complained of cough and pain in his throat. He was ordered a purgative, and put upon half diet.

Next day pain in the throat was more severe, and twelve leeches were applied, and antiphlogistic regimen enforced.

On the 12th, slight symptoms of trismus supervened, attended with cough and pain in the throat and breast; pulse quick.

V.S. ad ʒxvj.

13th.—Trismus more severe.

14th.—He died.

It is unnecessary to dwell further upon this first class, simple generally, and then differing in no way from similar injuries in any part of the trunk or limbs; complicated occasionally, and then presenting, in greater or lesser degree of intensity, those symptoms of which I am now to speak in relation to penetrating wounds of the chest.

Of merely penetrating wounds, without injury to the heart or lungs—and many such are to be met with—the chief and first danger is inflammation of the pleura, leading to adhesion or effusion; the inflammatory action occasionally extending to the substance of the lungs, and leading to a fatal peripneumonia. The following is an example, rendered doubly interesting by its demonstration of a fact which can only be explained by supposing a metastasis of diseased action, or a distant and similar action of secreting surface, induced by some chain of sympathy, the intervening links of which cannot be traced, somewhat analogous to the diseases of liver and distant suppurations established apparently as a consequence of injuries of the head, some instances of which were given while that part of the subject was under consideration.

Case of wound barely opening the cavity of the chest, followed by fatal disease in lungs and cavity, and by effusion of lymph and serum in the pelvis.

John Longson, æt. 23.

Injury. — A musket-shot passed through the fleshy part of the arm into the flesh of the chest, below the left nipple, fracturing but not comminuting the fifth rib, denuding it of periosteum, and lodging upon it without penetrating the cavity of the thorax.

Symptoms and progress.—First day great difficulty of breathing; cold shivering.

Vespere.—Pulse bounding; skin hot.

Opiate of morphia. V.S. ad ʒxx. Purgative.

2d.—Cough; no expectoration of blood; pulse as on previous evening.

V.S. ʒxvj. Purgative.

3d.—Great pain of chest; respiration quick, short, and difficult; sleepless; unable to lie on left side; pulse subdued; sputa slightly streaked with blood.

Diaphoretic and saline mixture, with a dose of morphine at bed-time.

4th.—Thirst great; skin hot; pulse quick, not very full.

V.S. ʒxij.

5th.—Countenance anxious and distressed; cough severe, with expectoration of blood; great pain and difficulty of breathing; pulse about 100.

V.S. ad ʒxvj. Rep. Mist. et Haust. h. s. s.

7th.—Symptoms continue; ball discovered and extracted.

V.S. ad ʒxij.

8th.—No alleviation.

V.S. ad ʒxvj.

9th.—Relieved, but return of bad symptoms.

V.S. ad ʒxiv.

10th. — Suppuration profuse; pain extending from left shoulder to the abdomen; pulse 64, intermittent.

C.C. ad ʒxij.

11th.—Pulse 66, hard, not intermittent; patient not suffering much.

V.S. ad ʒxij.

15th.—Considerable febrile action has been going on; pulse full, slow, and jerking; action of the heart strong; great prostration. Dose of digitalis increased.

20th.—Has continued losing strength; strong arterial action; cough and diarrhœa; pulse 96, full, and vibratory; pain in chest; tongue clean and moist; patient delirious.

23d.—Has continued gradually sinking; died in the evening.

Treatment chiefly constitutional—strictly antiphlogistic—by diet, purgatives. Digitalis increased from fifteen to twenty-five minims three times a day. Bleeding almost daily, amounting to 168 ounces in the first fifteen days, twelve of which were extracted by cupping.

Post-mortem. — Slender emaciated boy; narrow chest; rib found broken across, but not splintered, at the spot where the ball had been extracted. Cavity of the chest opened into, but in so trifling a degree as to have admitted of doubt, or at least to have escaped notice, had air not been distinctly seen escaping during life. Bone denuded, and no attempt at union. Strong adhesions of the pleura on both sides; on left side effusion of thick, white, purulent matter; strong adhesions all over the surface. Upper and lower lobe of lung nearly healthy; middle tuberculated, and with one or two abscesss close to the surface, in contact with the pericardium, which was much thickened, and covered with lymph and matter. The whole of the pleura costalis granulated, and covered with the same matter. On the right side the same extensive adhesions existed; the pleura costalis but slightly diseased; the pleura pulmonalis more. Tubercles existed from the cheesy to the suppurative stage. Liver healthy. *Effusion of about four ounces of partially coagulated lymph and serum was found in the base of the pelvis*, without any apparent cause in the structure of the parts.

The progress of this case, with scarcely any favourable intermission, however slight, notwithstanding the vigorous measures taken to arrest, if possible, the inflammatory action, deserves notice. It proves how, even in an uncomplicated case, involving the serous cavities of the chest, with how little certainty we can promise a speedy and favourable result, and how completely beyond the control of art are the consequences which occasionally follow these injuries.

Of these simply penetrating wounds, and of those inflicting direct injury on the organs within, the variety in the effects, symptoms, and results, is scarcely inferior to those which I brought under notice when speaking of the complicated injuries of the head. The usual course of these cases, and their prominent features, are the rapid supervention of distressed and painful respiration; this sometimes preceded by a stage of depression seldom lasting above a few hours: but the breathing rapidly becomes short, hurried, and painful; the pulse sharp in its beat, bounding, and accelerated from 90 to 120; cough occasioning intense pain, often the desire or the attempt to cough without the possibility of accomplishing it; blood-stained expectoration; expiration of air from the wound, but not invariably, for the lung of the injured side frequently collapses, leaving respiration to be performed entirely by the opposite side.

It is necessary to bear in mind that expiration of air from a wound opening

into the cavity is by no means an undeviating mark of rupture of the lungs, for air may enter the cavity from the orifice, and still admit of a limited respiration, and consequently as the lungs dilate air will be expelled by the wound; not from the lungs, but from the cavity.

If bleeding be freely resorted to until the sharp, thrilling, and bounding character of pulse is softened, suppuration comes on in a few days; the chief symptoms become less urgent, and in these injuries the discharge is most abundant, sometimes amounting to one, two, or even three pints per diem. The hæmorrhagic expectoration either ceases, and it is merely purulent, or it may be sanguineo-purulent; occasionally it ceases altogether. If the case go on favourably, the pain of chest and cough diminish; the discharge becomes gradually less abundant; the wounds slowly heal; and the patient recovers—sometimes with but little impaired health, but far more frequently with some cough and expectoration, with inability for active exertion, which always produces an attack of inflammation and hæmoptysis, and not seldom the foundation for a disease in the lungs is laid which ultimately—perhaps at some years distance—destroys life. If, on the contrary, the case end unfavourably, instead of the pain, cough, and expectoration diminishing, or perhaps disappearing altogether, and the discharge abating, there is a fitful kind of intermission: one day the patient is somewhat relieved, the next suffering intensely: the discharge becomes fœtid and enormous in quantity, and the patient is carried off at a period varying from six hours to 150 or more days—either by hæmorrhage, suffocation from matter in the bronchiæ, or pressure of fluid on the lungs; or finally, worn out by the great drain on the constitution and long continued irritation, he dies of hectic fever—diarrhœa, and delirium come on, and he sinks exhausted, but apparently not until both the materials and the powers of life are consumed; the pulse in these cases generally until near death preserving a thrilly and febrile character, against which the largest bleedings have only the most temporary effect, often intermittent, and the respiration short, painful, and irregularly hurried.

Such is the general progress of these cases. They are not only productive, however, of many important varieties in the nature and order of effects (of which I shall speak hereafter), but are liable to many complications of a less regular or of an accidental character; such as lesion of the intercostal arteries, extravasation of blood, emphysema, pulmonic hernia.

When there is a wound of an intercostal artery, it is always desirable, if possible, to secure it, and this, from its known and fixed situation, may generally be effected; or if this fail, a compress may still be so applied as to attain the same end. The actual cautery has been successful when other measures have failed, and no means should be left untried, rather than risk an extravasation of blood difficult of removal, and the signs of which are so far equivocal as to render the treatment obscure and far from satisfactory in the majority of cases. Occasionally, the merely dividing the artery completely across arrests the hæmorrhage. The tenaculum should, however, always be used when possible.

It is a sufficiently established principle in modern surgery, in all ordinary circumstances, to close as speedily as possible the wounds of the thorax. This has a tendency to control any flow of blood into the cavity. It may lead occasionally to another accident—viz. emphysema, or the insinuation of air into the cellular tissue; sometimes enormously swelling one side, or even the whole body. One case I remember, when the patient was so disfigured that it was difficult to recognize him as a man, and quite impossible to distinguish the individual by his features. In such a case, the opening the wound, and providing a free exit for the air, is generally sufficient to obtain the resolution of this swelling.

Sometimes also a piece of lung protrudes, and may even become mortified; in which last case, the mortified part may be excised, and the lung restored to the cavity; or, if the vitality be destroyed, the wound should be enlarged sufficiently to allow of the return of the viscus. If my object were to give a long lecture, rather than to draw your attention to the most important varieties, much more might be added. I have, however, nothing new to communicate on the points just enumerated, and, beyond what I have mentioned, these forms do not require any peculiar deviation from the general principles of treatment for all wounds.

The more important variations in the effects of these injuries, and the nature and order of the symptoms in regard to treatment, will form the subject of the next lecture.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on Varicose Capillaries, as constituting the Structure of Carcinoma of the Hepatic Ducts, and developing the Law and Treatment of Morbid Growths; with an Account of a new Form of the Pus Globule. By T. G. HAKE, M.D. &c. London, 1839. 4to. pp. 20, and 6 engravings.

As a subject which has of late created considerable interest, we enter upon a notice of this short treatise by Dr. Hake, of which, however, we shall consider only that part which relates to the probable anatomy of cancer, and on which the dispute between him and Mr. Kiernan has chiefly rested. The new pus-globule is but a single and, as yet, uninteresting fact—one of the thousand of the same class which require some magic hand to place them in intelligible order, or to make them available to pathology or practice. The chief distinctive characters of these globules are their great size and ovate form; they are about 1-850th of an inch in their shortest, and 1-450th in their longest diameter; they contain circular nuclei, within which are enclosed numerous molecules, of various sizes. As yet Dr. Hake has found them only in the carcinoma of the hepatic ducts. The following extract contains nearly the whole of his account of this disease, which is certainly the best part of the essay:—

There is a disease of the liver in the rabbit which consists of carcinomatous enlargement of the ducts, but manifests itself under the apparent form of small abscesses. This appearance is owing to dilatations of the ducts which occur at regular intervals. These dilatations may be either few in number, or so numerous as to occupy the greater portion of the substance of the liver, and to be seen, through the peritoneum, to cover numerous points of its surface. * * * *

Having obtained a rabbit, I tied the aorta and portal vein so as to cut off all supply of blood to the liver. I then opened the hepatic vein. The liver, which was occupied by the disease to the fullest extent, was carefully injected on the following day, and with perfect success. The highly vascular surface of the ducts received the injection from both the hepatic artery and portal vein, but principally from the latter. The white (purulent) fluid within the ducts was in some parts tinged with green, the colour employed to inject the portal vein; in others with the red injection from the artery. On opening different ducts and examining their inner surface, I found it to be the seat of a thick, irregular, morbid growth, which was deeply impregnated with the red and green injections, but in which no vessels were detectable by the naked eye, except the more considerable branches of the hepatic artery.

Having subjected both the outer or vaginal, as well as the inner surface of these highly-injected ducts, to microscopic observation, I found the former covered with an exceedingly minute plexus, derived from the portal vein, with branches of the artery crossing it. This plexus in many parts possessed the characters of healthy vessels; a fact of the highest interest in physiology, since it shows the exact manner in which the portal circulation is carried to the hepatic ducts; and being continued to the inner surface of the ducts, as will be presently shown, it explains the secretion of the bile on the same principle as that of other fluids, viz. by the distribution of vessels over a free surface.

An examination of the inner surface of the ducts proved that the new growth consisted of a plexus of capillaries derived from the portal vein, interspersed with others from the hepatic artery. This plexus, however, instead of presenting a healthy form, was seen to consist of varicose vessels, in some parts dilated to an extraordinary degree and knotted, and in others contracted. Indeed, the entire structure consisted of a plexus of varicose capillary vessels.

Dr. Carswell, in his elegant illustrations of the Elementary Forms of Disease, has supplied a drawing of the affection of which this paper treats, and has the entire merit of having ascertained that it existed in the ducts, the extremities of which, he says, "are dilated into the form of pyriform sacs of various sizes." * * *

These observations I have been able to confirm by examining the disease in its early stages. At first simple dilatation of the duct, without thickening, takes place; the bile found within the duct at this period of the disease contains globules like those of the blood, but of three or four times their diameter, and occasionally with a

molecule formed on their disc. In a more advanced stage the duct is thickened and pyriform at its egress from the glandular grains of the liver, and contains pus. This thickening of the duct represents the crude state of carcinoma; but as the disease advances, and the whole of the ducts become knotted, and indeed varicose, the structure softens, and presents all the character of medullary sarcoma. The cellular aspect which the disease presents is caused by shoots of vessels in the form of flocculi; and its ultimate softening by the tenuity of the vessels, which increases with their varicose growth.

It happens frequently that the outer surface of the enlarged ducts is coloured, from the presence of congested vessels. By injection, this appearance is proved to be a plexus of capillaries from the portal vein. These capillaries, not being varicose to the same extent as those within the duct, but often of a regular form and diameter, may be supposed to represent the distribution of the portal vein to the hepatic ducts in their healthy state. Branches of the artery also cross these ducts; but their plexiform distribution is reserved for the inner surface, where they blend, without anastomosing, with a similar structure of portal capillaries.

The vessels which connect the enlarged ducts and the glandular grains of the liver are the minute ducts, which are distributed round those bodies. The walls of these capillary ducts, which do not participate in the disease, as well as those of the larger branches, receive injection from the portal vein.

The carcinomatous structure of the ducts is entirely vascular, and consists of a plexus of varicose capillary vessels, which extends in every direction and not over the surface alone. In fact, the diseased vessels commencing from the external plexus anastomose, and proceed to the inner surface of the ducts, while, in the interstices which they leave between them, the pus is collected. The varicose state of the capillaries is almost coetaneous with their formation, the process of their growth being subject to pathogenic laws, if not their first formation. The new vessels do not shoot into an albuminous or any other deposit, as some have supposed; but proceed in the form of flocculi from a vascular base, become varicose, and again give out branches; and their increase alone constitutes the growth of carcinoma, and their different degrees of varix its progressive softening.

Such is the manner in which this morbid growth is developed within the ducts. Its structure is entirely vascular. If a transverse section of the duct be made, the plexus of varicose capillaries which forms its substance is seen to resemble a honeycomb; and the vessels are so minute, that only the more dilated ones are seen when magnified from twenty to thirty times linear.

Whatever may be the office of the hepatic arteries,—whether to supply the follicles of the ducts with blood for the secretion of mucus, or to separate the salts of the bile, both of which uses have been supposed,—they certainly are involved in the disease in question; for, though fewer in number than the veins, they are equally the seat of varix, or, perhaps, more properly speaking, as respects arteries, of aneurism.

The efficient cause, then, of carcinoma, as existing in the hepatic ducts, is to be found in universal varix of the veins and aneurism of the arteries, as affecting capillaries, and in the simple increase of vessels so affected. The application of this law of morbid developement to the study of disease will be found in the concluding portion of this essay.

Thus far Dr. Hake's paper is almost entirely matter of observation, and probably of truth, for his examinations appear well made, and his reputation is that of a skilful and cautious observer. In what follows, however, he descends very far below the level upon which his facts might have placed him. His development of the law and treatment of morbid growths we give at full length.

The fact that all morbid productions; whether cancerous, tuberculous, osseous, or of other kinds, may not only co-exist, but be intimately mingled in structure, that these are found connected with purulent, serous, bloody, and other deposits;—this fact, considered by Béclard as one of the greatest sources of difficulty in the study of pathological anatomy*, may, at the present era, be viewed as a collective proof that one and the same law presides over the development of all disease. Though the nature of this law has been unknown, authors have not failed to detect an intimate alliance between the various forms of carcinoma, so that scirrhus, cancer, medullary or gelatiniform sarcoma, have been called indifferently by the same name; while tubercle and melanosis have been united in the same class on the one hand, and melanosis and cancer on the other.

When Béclard, writing of cancer†, said "This tissue has less consistence than

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* Anat. Gén.

† Béclard and Blandin, Additions à l'Anatomie Générale de Bichat.

scirrhus, though more than the cerebral substance; is of a milky white, interrupted, when cut, by red points formed by divided vessels: these, in fact, are very numerous; but their walls are very thin, and scarcely support the force of the injection,"—that author was not far off from the efficient cause of the disease; and, had his mind but been in search of that, the probability is that he would have detected the truth, which was thus within his reach.

In tubercle affecting the spleen, I have seen the capillary arteries aneurismal; that they are so in every form of tubercular growth, as well as cancerous, is yet to be proved; meantime, it appears more than likely that, while one common law operates in the nutrition of natural tissues by means of healthy vessels, the deviation from that law is attributable to diseased vessels.

That hemorrhage arises from the rupture of varicose capillaries, is seen in cancerous affections; that it springs from the same causes in all tissues, whether in the pulmonary, cerebral, or any other systems, I would not express a doubt, but that research can immediately decide the proposition. These dilated and attenuated vessels, when the disease which they constitute is superficial, having no mechanical support, become gangrenous; a state which gives rise to the destruction of parts involved in malignant disease, and their consequent removal not by absorption, but by the disintegration of the outer surface.

The capillaries in a healthy state are of a uniform diameter, their size being about that of the blood globule. From this fact it may be implied that, in all tissues which secrete pus, the capillaries are in a state of dilatation; for the pus-globule is generally from one-third greater than, to twice the size of, the blood-globule; consequently the capillaries which secrete the former must be of a proportionate diameter. This simple truth opens to investigation the state of the capillaries through the large class of scrofulous affections, venereal and other abscesses, and suppurating surfaces of every description.

That in the production of all diseases the capillaries are the active agents there can be no doubt; and, when the extent to which these vessels are liable to undergo change in the production of heterogeneous growths is fully understood, it is to be hoped that the practitioner, with his views enlarged, may find a more certain means of controlling their action.

Should this minute inquiry bring other investigators into the same field of research, it is recommended that the examination of the capillaries should be omitted in no instance whatever, whether in aneurism of the large vessels, varix of the veins, hypertrophy and atrophy of organs, or even in diseases affecting the whole system, as inflammatory and febrile affections.

The scientific treatment of malignant diseases has yet to be discovered. It must be founded on experiments made on animals with medicines for the purpose of ascertaining the effect they produce on the capillaries, and on observations of the effects of remedies on the blood—a fluid evidently involved to a greater or less extent in the production of heterogeneous growths. In the mean time, in cases where excision of the disease is impracticable, but where the artery which is distributed to it, and the capillaries of which are aneurismal, is within reach, a ligature might be tried, without danger and with some hope of benefit. And this might be succeeded by venesection and transfusion, cautiously but regularly performed; an experiment which, in prudent hands, could be attended by no danger, but might lead to results which would advance our knowledge of practice in this most fatal class of diseases.

Dr. Hake may call this the development of a law, but it is a pity that in so early a stage of its development it should have been brought forth, for nothing can save it from the common fate of abortions. His facts are good enough, but his *laws* are gratuitous suggestions. Both they and the whole style and character of the work afford too certain evidence of very rash haste in throwing himself before the public.

MEDICAL GAZETTE.

Saturday, August 31, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE RIVALS IN DISCOVERY.

AMONG philosophers, we suppose, as among good soldiers, each must confess that—

> "If it be a sin to covet honour,
> He is the most offending soul alive."

Surely not even the *odium theologicum* of olden times surpassed, in the pertinacity of its contests, the fierceness

with which anatomists now-a-days war with the knife. Only see the contents of this month's numbers of our Gazette: four distinct contests, simultaneously carried on in different regions of the medical sciences, and each fought with scarcely less vigour and anxiety than if the fate of an empire depended upon it. How marked a proof that the amount of the object at stake is no measure of the eagerness of the pursuit!

Of all these controversies, however, none is equal in interest, or has excited so much attention, as that between Mr. Kiernan and Dr. Hake; partly because it has in some measure broken through the curtain of mystery, behind which there lay some years' accumulation of rich treasures of pathology, and partly in consequence of the extreme earnestness with which one, at least, of the combatants has asserted his claim. As our pages have been the arena of the contest, we shall probably not claim too great a privilege in undertaking to place the dispute in a somewhat clearer light than the letters that have been published can, and in expressing our own impartial opinion upon it.

Dr. Hake's case is briefly stated in his own advertisement to the Treatise which we have elsewhere noticed. "I first saw varicose capillaries in tubercle of the spleen given me, about ten months ago, at Paris, by M. Andral. I afterwards saw them in softening of the spleen. . . . . In a preparation of intestine which I was invited by Mr. Kiernan to inspect, I recognized the same state of the vessels, and communicated to Mr. Kiernan my opinion of its nature; but I had no suspicion of the full importance of this form of disease until recently, when I found that it was identical with carcinoma." From this it is evident that Dr. Hake was acquainted with the state of the capillaries which he called varicose, before he saw Mr. Kiernan's preparation—a fact corroborated by the testimony of M. Monneret. He was, therefore, in a state to appreciate the value of any preparation in which they were exhibited, or to detect them in any diseased organ; and he has lately found them in a carcinomatous disease of the liver of rabbits.

Mr. Kiernan has been acquainted with the same condition of the capillaries for upwards of five years; it "forms the ground-work" of all his investigations on the anatomy of cancer — investigations not of one form only of this disease, but embracing (as those who are acquainted with his museum know) every variety of it, in every tissue, and under all circumstances.

In reference, therefore, to the first point for decision—the right of honour for the discovery of a varicose condition of the capillaries—there can be little doubt. Mr. Kiernan first discovered it five or six years ago. Dr. Hake, without any knowledge of Mr. Kiernan's investigations, rediscovered it ten months since. There is no evidence in support of Mr. Kiernan's belief that "all that Dr. Hake knows of varicose capillaries he has learned of him:" had he not been previously acquainted with this peculiar condition he could not at once have distinguished it in the preparation of the intestine, nor in the diseased ducts of the rabbit's liver.

Whatever merit, therefore, attaches to the re-discovery of a varicose condition of the capillaries (a condition previously known, but unpublished, by another), must be allowed to Dr. Hake. It must be allowed, further, that he has found them unassisted, in a form of carcinomatous disease; but here his merit ends; and it would have been well for his reputation if he had sought no more, and had been content, without endeavouring to grasp so much as the title of his present book includes. It cannot

escape notice, that this title is different from that by which it was first announced, by the substitution of the special term "carcinoma," in place of the general expression "diseased" hepatic ducts, and by the addition of "developing the law and treatment of morbid growths." There is here an important increase made to the pretensions of his discovery—an increase which, we think, he would have been unable to make, unless Mr. Kiernan had, subsequently to the first appearance of the advertisement, confessed that varicose capillaries were the ground-work of all his investigations. Without this confession, and with only the evidence of previous investigations, and that which Dr. Hake's paper affords, none but the most rash and hasty generalizer could conclude that varicose capillaries constitute the structure of any other form of carcinomatous growth than the one in the bile-ducts of the rabbit, which Dr. Hake describes. To endeavour from his limited examinations to develop the law of morbid growths generally, is absurd; and the attempt which he has made, as our analysis of the work will show, is ludicrous: he has in this shot far beyond his mark. He, or any one else, may now, from what Mr. Kiernan has confessed, be sure that varicose capillaries are of essential importance in morbid growths; but, except for this one fact of their existence in these bile-ducts, no one, we believe, but Mr. Kiernan, yet possesses any available means of demonstrating even a part of their real influence.

For Mr. Kiernan, he may at least congratulate himself that his enemy has written a book, and let the world know how much of his discoveries he has been able to anticipate. But beyond this, he has little to boast of in the result of the encounter; his rash confession of the importance of his opponent's discovery has unveiled the mystery which he had for years successfully kept hid from all but the most friendly eyes, and has pointed out the road by which, bit by bit, his discoveries may be stolen from him by any passing observer. He has not only opened the secret door by which he alone was once able to enter and view this part of nature's arcana, but he has done all he could to draw every body's attention to it. Besides this, too, he has been somewhat hasty, and by his intended precedent of "waiting at home" for plagiarists, has added no little to the danger of becoming a discoverer. There was enough before to deter observers, in the literary controversies to which they were exposed; but really, if a man is to run the risk of being shot, because he takes the same name for a disease as his friend had previously selected, we scarcely know who would willingly engage in a scientific pursuit, unless the excitement of personal danger could be rendered as agreeable here as it is in some other sports.

It is much to be lamented that disputes concerning priority of discovery cannot be avoided; yet we know not how it is possible to prevent them. If, through fear of being anticipated, a man publishes every single fact directly he has discovered it, we get nothing but raw and ill-digested evidence, which it is scarcely possible to make use of—such as some of that contained in Dr. Hake's book; or those unsatisfactory communications which are so constantly made to scientific societies. If any one wishes to see a selection of medical absurdities, in the guise of discoveries, let him look over the papers communicated during the last two or three years to the French Institute, and published in the *Comptes-rendus*. To obtain the merit of first discovery, their authors are content to

publish the most vague and loose notions of some anticipated result; to hang out hints, like hooks, upon which they may by chance catch some flying new idea, and call it their own. That journal affords the strongest examples of premature deductions, with which we are acquainted; but nearly all the others of the present day are too full of them; and this from the desire which men have to be thought discoverers, and their fear lest, while they are working towards a more just and perfect result of their investigations, some other person should step in and rob them of any portion of their presumed merit.

The fear, however, is a weak one: for it would be better to lose the credit of first observation than to have the discredit of publishing too hastily, and therefore badly. The loss of the honour of discovering truth is less grievous than the disgrace of promulgating error. In the present case, Mr. Kiernan might disregard the little points in which Dr. Hake and others may seem to anticipate his greater results: he must expect that on a subject of this kind, which is occupying the attention of many of the best observers of the present day, (Müller, Valentin, Pappenheim, Langenbeck, Cruveilhier, Carswell, Henle, Glüge, and numerous others) each will find something which Mr. Kiernan had previously imagined to be known only to himself; but he may be quite sure that none of them will obtain such extensive stores of facts, or be able to arrive at the same great result, with the same convincing proofs of its truth, as he will. It is only by making such extensive and complete investigations that plagiarism is to be prevented and true credit obtained. Have Louis' works ever been pirated, or has he been robbed of the result of his patient inquiries? His followers and imitators may feel assured that at the conclusion of such researches as they undertake, they will arrive at results which could not be hinted at, or obtained—nay, could scarcely be hinted at—without the same labour as they have bestowed on them. These, and these only, are the investigations which set envy and imitation at defiance. If medicine is to make rapid progress it must be by the honestly reported results of inquiries continued for as many years as most men give up days.

THE APOTHECARIES' COMPANY *versus* GREENOUGH.

It is observed by Samuel Frederic Gray, in the Preface to his Supplement to the Pharmacopœia, that it took one hundred and fifty years of litigation to settle the meaning of the phrase "to practise physic," as used in the statute of 15 Henry VIII.; and he thinks that it must be left to time to determine whether it will take as long to interpret the words "to practise as an apothecary." A cause which has just occurred upon the northern circuit, having been tried at Liverpool on the 24th of August, before Mr. Baron Maule, illustrates the difficulty of this legal problem. An action was brought by the Worshipful Society against a young man named Greenough, for practising as an apothecary, not being licensed. It appears that he superintends the shop of his sister, as a druggist; he also attends poor patients, sending them in bills, some of which have been paid. The Society had offered not to proceed farther if Greenough would submit to a judgment, as a pledge that he would not offend again in like manner; but their offer had been rejected. Mr. Watson submitted to the judge, that it was doubtful what constituted a practising under the Apothecaries' Act. "A per-

son might get a license from St. Andrew's, or call himself a doctor, and then he would be free; so that the security which the public derived from it was, to a great degree, imaginary."

The case is so imperfectly reported, that the only part of Baron Maule's charge which is given, is the remark, that half the penalties belonged to the informer. The jury returned a verdict for the defendant*. Mr. S. F. Gray, in the preface above mentioned, is willing to think that the Apothecaries' Act is merely intended to give the public the assurance, that those who practise under that name have gone through a certain education; while patients who entrust themselves to those who practise under other titles, do so at their own risk. This latitudinarian theory, however, has not as yet been inculcated by judges on the bench, nor encouraged by the verdicts of juries; but as far as the extreme scantiness of the report will allow us to judge, the Liverpool case seems to point that way.

Mr. Watson is certainly mistaken, if he imagines that a St. Andrew's degree will be a shield to any one against the penalties of the Apothecaries' Act; for it confers no legal title to practise in England in any shape. Perhaps, however, he only referred to the imperfect protection afforded by the Act, which does not even attempt to check more than one class of pretenders. Of course, a member of the London College of Physicians might practise as an apothecary, as the Act reserves the rights of the existing corporations; but there are many other points still painfully uncertain. Counter practice, we suppose, is not punishable under the Act; but what shall we say of all the nice gradations of half-contraband practice—between the mere recommending of black draughts over the counter, and the full-blown violation of the Act by unlicensed bills and visits? We fear that each intermediate step will require verdicts and decisions to fix its legality, unless the legislature should kindly intervene with some declaratory statute.

* *Times*, Monday, Aug. 26, 1839.

ON CUTICLE, PUS, AND MUCUS.

By Dr. Henle, of Berlin.

[Concluded from page 797.]

I have sometimes examined the fluid at the very beginning of the flow of mucus in nasal or bronchial catarrh. In these cases I have always found the elementary cylinders of the ciliary membrane, often united together in large pieces, but more often floating separately in the otherwise clear watery fluid; in the mucus from the nose at this early stage the portions of epithelium of the lower part of the nostrils are also found as delicate flocculi in the excretion. But very soon the number of the healthy epithelial cylinders and cells diminishes; mucus-globules appear with simple or complex nuclei, and from this time during the further course of the catarrh, the sputa consist of the characteristic mucus-globules, with kernels splitting in the manner already described. The evident differences of the sputa in the different stages are dependent not so much on difference of form as on the quantity of their solid constituents, and the fine coagulating fluid, by which the globules, even when they do not lie close together, are yet so connected as to form membrane-like expansions or sacculi. In the latter stages of nasal and pulmonary catarrh there occur in the sputa yellowish corpuscles with irregular surfaces, mixed with dark granules of very varied size and inconstant form. By their glistening they may be recognized as globules of fat.

In many cases there are found intermediate conditions between the mucus-globules described above, and the common forms of the cells of epithelium. There are found, for example, many roundish, oval, or polyhedral cells, whose kernel is evident without the use of any chemical means; then the quantity of the mucus-globules may be seen gradually increasing, and at last the kernel is quite obscured. In the latest stages globules occur, which exactly resemble the fat cells just described. It is thus proved (at least in some catarrhal diseases,) that the mucus is not the normally-formed epithelium which is altered after its formation, and

also that the exudation with the peculiar mucus-globules does not take place on the surface of a healthy epithelium; but that the latter is first removed unaltered, and that the formation of the pathological cells of the mucus-globules takes place below the epithelium and next to the mucous membrane. We may, perhaps, suppose that on all mucous membranes, from which we find a secretion of mucus-globules, which do not come from mucus glands, there has previously been a separation of the normal epithelium. In leucorrhœa, I have in the early stages found the number of lamellæ of epithelium very great, in proportion to that of the mucus-globules, and afterwards decreasing, though never completely wanting, because the epithelium of the healthy parts is constantly being regenerated, and is, therefore, mixed with the morbid epithelium of the diseased parts.

I have already mentioned a separation of the normally-formed epithelium, which follows certain morbid conditions of the mucous membranes. The diseased process may terminate with this desquamation, as in a simple gastric affection; but in catarrhs of all kinds, the same separation of the normal epithelium is only the commencement of the disease, and is followed by a new formation, not of normal, but of pathologically altered epithelium, distinguished by the splitting of the kernels of its elementary particles. This latter process may last for a longer or shorter time, till the mucous membrane again produces its healthy cuticle, or it may, as in some chronic cases, continue indefinitely. There are mucous catarrhs of the bronchi, nose, eye, urethra, and female sexual organs, in which, after years, the mucus-globules alone are produced, and in which, after death, one finds the diseased membrane covered by the mucus-globules, and the streaky coagulating fluid, in place of the normal epithelium; but yet without ulceration, without any remarkable swelling, and only more or less reddened; and even the redness may be absent.

When we compare the pathological formation of epithelium with the eruptions on the skin [of which a lengthened and most admirable account is given], we find in the latter, those facts visible to the naked eye which in the former case were discernible only with the microscope. In both there is a separation of healthy cuticle; the differences being easily explicable by the difference of strength in the cuticle of the two surfaces. On the mucous membranes with a firm epithelium, as the conjunctiva, the mouth, fauces, and œsophagus, the same distinct exudations occur as on the skin, producing papulæ, blisters, and pustules. Aphthæ extend from the mouth to the cardia, but not further; but the inflammation from which aphthæ result may at the same time extend through the intestinal canal, and they are chiefly remarkable as a symptom of the gastric derangement. The mucus-globules which cover the mucous surface after the removal of the cuticle, and which, when evacuation takes place, are removed with the fluid exudation, cannot microscopically be distinguished from the globules which float in the serum of vesicles and blisters, in the pus of pustules, and in the watery fluid that oozes from raw moist parts of the skin, and which have been long known as pus globules. All these are found in similar stages of development to those of the mucus-globules. If the vesicle raised by a blister be opened very early, when it has risen to about the size of chicken pock, there are, indeed, already pus globules swimming in the clear fluid, whose kernel splits with acetic acid; but there are also others, more like the cells of the deep layers of epidermis, whose nucleus is not split, or only becomes indented by acetic acid.

The pus globules are deposited, like the mucus-globules, on the inflamed surface, and are washed away by the oozing fluid. Their quantity in porportion to that of the fluid is very variable. In the serum of vesicles and blisters it is but small, though more considerable than one might imagine from the clearness of the fluid. The more considerable the proportion of the globules, the more does the fluid acquire the characters of pus, the yellower and the thicker it becomes; and hence, by evaporation, or by the increased formation of globules, vesicles are changed into pustules. Serum and pus have thus the same relation to each other as immature and mature mucus.

I consider the identity of exanthemata and of those diseases of the mucous membranes in which mucus or pus globules (for these are all identical), are found on the surface of mucous membranes, as proved. The latter may be classed under the general name of catarrhs. In a general view of the kinds of internal exanthemata or catarrhal inflammations, it is necessary, as in eruptions, first to separate those which pass a typical course, and are accompanied by fever which cannot be considered merely as a consequence of the local stimulus. Thus, in many eruptive fevers, coincident superficial inflammations of the mucous membranes occur, as of the eyes and air-passages in measles, of the fauces and pharynx in scarlatina, the pustules on the conjunctiva, fauces, and œsophagus, in small-pox; in the injection of the mucous membrane of the

intestine in erysipelas, and other acute cutaneous affections.

Next to these fevers, where the internal exanthem is merely a complication of the external, are those where it is the essential symptom. This is the case in bronchitis and coryza; in all the varieties of gastric and catarrhal fever; in typhus (for the name of exanthem is certainly as well adapted to the intestinal ulcers as to the pustules of small-pox), and probably in some other affections. Cholera is fever, with exanthematous affection of the intestinal canal, whose epithelium, as Böhm has shewn, is always desquamated.

Next to these are the catarrhs arising from external local causes—as cough from irritating bodies, catarrh of the bladder from stone, and, lastly, the catarrhs resulting from constitutional causes, in whatever mucous tract they occur.

Now when one sees that in stimulated or inflamed membranes, immediately after the normal epithelium is removed, new cells form which are so nearly related to those of the epithelium, and that these cells are in no way different from the true pus globules, what would be easier than to regard pus globules as diseased epithelium cells, and suppuration as a pathlogical formation of cuticle; and further, to explain every glandular secretion by which mucus globules are poured out, as a process related to suppuration or the morbid formation of cuticle? Either idea would be rash; for we cannot regard the increased normal secretion of a gland as pus, and, on the other hand, pus globules form in closed abscesses as well as on open surfaces, and in the former the supposition of a formation of cuticle would, at least, be something very forced. All these phenomena—the formation of cuticle, and of mucus and pus-globules must rather be regarded as species of a general process, on which they are all explained.

Cells with kernels and nuclei, for example, are not peculiar to the cuticle. They are found, in the adult body, in many other tissues; as in pigment in the ganglia and brain, in the fluid of the Graafian vesicle, &c. They exist universally in the earlier periods of life, and they are the first forms produced in the organization of all the new products of the animal body. They appear, therefore, in the plastic exudation on the surfaces of tissues in inflammation or without inflammation, when regeneration is effected normally. A cell with a kernel, and a nucleus within the kernel, is the true primary cell of all tissues.

Regeneration takes place with or without inflammation; and in the former case, with which only we are here concerned, it is either direct (by the first intention) or indirect by suppuration. If, after the cuticle is removed from a surface, the primary cells which then cover that surface immediately form cuticle again, the regeneration is direct, and at once completed. And so in the reparation of cellular and other tissues, the primary cells may at once undergo the same changes which they did in the original formation of those tissues in the embryo; they may at once become the particles of cellular tissue, bone, &c. But in indirect or suppurative regeneration, a part of the primary cells gradually alters, as in the other case, into cuticle or cellular tissue, or bone; but another portion of them are thrown off, and these separated primary cells or pus globules (as they are then called) are always distinguished by their kernels being split by acetic acid. Evacuated with a coincidently secreted fluid, the cells of the latter portion form pus; when the quantity of fluid is small, and coagulates or dries, then they form crusts or scabs over the inflamed surface. Those of the former unseparated portion form the granulations of healing wounds. In all cases, the new cells are formed on the surfaces of the granulations, and the conversion of the granulations into cellular or other tissues takes place progressively from the depth to the surface of the wound; and when the granulations arrive at the surface of the body, the primary cells no longer take the form of cellular tissue, but of cuticle. Such is the process of cicatrization.

ACCOUNT OF A CASE OF ABSENCE OF THE MAMMARY GLAND.

By Dr. R. Froriep.

The subject of this case was a woman, æt. 30, who died, eight days after delivery, of peritonitis. When the body was being examined it was at once evident, that while the left breast was well developed and turgid with milk, the right side of the chest presented in the situation of the mamma only a superficial depression, which was limited at the sternum by an S-like border. At this point there was no trace of either a nipple, or a scar, or any alteration of the skin; the skin was not only smooth over the whole side of the chest, but was completely and easily moveable, so that there was no possibility of the breast having been removed by operation or disease.

The mammary gland on the left side was quite normal and full of milk, but on the right side there was not a trace of glandular tissue to be found; then there was nothing beneath the skin but a thin layer of adipose cellular tissue, which was

traced from the sternum to the shoulder. The third and fourth ribs of this side, beneath the depression, terminated just before the anterior edge of the scapula, so that the anterior part of the chest, from that part to the sternum, and between the 2d and 5th ribs, was closed only by a tough tendinous membrane: the 2d and 5th ribs were normal, but were wider apart than on the opposite side. The cartilages of the 3d and 4th ribs of the right side did not appear to be deficient, for at their level there were portions of cartilage attached to the sternum, and united with the cartilages of the 5th and 6th ribs into one mass, which presented grooves on its surface, while indicating that it was probably composed of four pieces.

To this deficiency in the development of the ribs there corresponded also a deficiency in the muscles of the chest; of the pectoralis major there existed only the upper part of the sternal and the clavicular portions; the greater part of the sternal portion was entirely absent; at its attachment to the arm also, there was only that rounded portion of the tendon which properly belongs to the clavicular portion, the flat broad part of the tendon corresponding to the sternal and costal portion was entirely absent. The pectoralis minor was entirely deficient—not a trace was to be found of either its origin or insertion; then parts of the serratus magnus which arise from the 3d and 4th ribs, and the intercostal muscles in the same space, were also wanting: in their place was a firm fibrous tissue, which easily yielded to pressure; the pleuræ costalis et pulmonalis and the lung were perfectly normal. On the left side all the parts of the chest were quite naturally formed.

It is very difficult to give an explanation of this defect of development. It cannot be regarded as an arrest at an early period, nor as the result of any thing occurring subsequent to birth. It seems fairer to suppose, that in an early period of uterine existence, one of the extremities, probably the right fore-arm, was applied on the right side of the chest, and was so fixed by an accidental pressure on this part, that the development of the organs beneath it could not be accomplished. In this way it is explicable how so many and such different parts failed of being formed. There are many proofs of the possibility of pressure thus preventing the usual progress of development, especially in the cases which Cruveihier relates, and in the investigations of Guilt, Montgomery, and Simpson, on the subject of spontaneous amputations of the limbs *in utero*.

I may here mention an interesting case of this kind which occurred to me a year and a half since. In a new born child, one phalanx of the little finger and half a phalanx of the ring-finger of the left hand were deficient, but the motions of the remaining parts were quite perfect, and there was no other deficiency. During the first day after birth this child shewed a constant habit of putting those two fingers into his mouth in such a manner that the edges of the jaws pressed exactly on the parts of the fingers where the deficiency existed. When his hand was taken away from his mouth, he immediately, and quite automatically, replaced it in the same position.—*Froriep's Notizen*, April 1839.

PREVENTION OF *PITTING* IN SMALL-POX.

At a late sitting of the Royal Academy of Paris, a letter was read from M. Legrand on the result of an experiment which he had made on the effect of gold-leaf in the pustules of small-pox. M. Larrey had said last year that the Egyptians and Arabs preserved the faces of their rich young persons from the destructive effects of small pox by covering them with gold-leaf directly upon the invasion of the disease. M. Legrand says, that he applied this method with the greatest success in a young English girl who had confluent small-pox. From the first instant of the eruption to the termination of the suppurative fever, he had covered the whole face morning and evening with fine gold-leaf, such as is used in gilding *à froid*, which he made to adhere by means of a little gum-water. With the exception of a few places at the sides where the gilding was removed by the friction of the pillow, the face, though it had been greatly swollen, was perfectly preserved, and the features retained their beauty. The hands, which had not been subjected to the same treatment, presented some characteristic cicatrices.

In the following sitting M. Larrey said that he had obtained the same result by repeatedly anointing the faces of those who had small pox with sweet oil, as with gold-leaf.

LITHOTRITY PERFORMED ON A SURGEON.

Proffssor Sanson has just been cured of stone by lithotrity, the operation having been entrusted to M. Leroy d'Etiolles. There were great difficulties in the case, but they were happily surmounted. M. Sanson did not interrupt his consultations for a single day during the treatment, and will soon resume his course of clinical surgery.—*Gazette des Hôpitaux*, June 29.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, Aug. 27, 1839.)

	Price.			Duty.		Duty Paid.	
						In 1839 to last week.	Same time last year.
	£ s. d.		£ s. d.	s. d.			
Aloes, Barbadoes, D.P. c	15 0 0	to	30 0 0	B P. lb 0 2		82,258	64,493
Hepatic (dry) BD..... c	5 0 0		10 0 0	F. lb 0 8			
Cape, BD. c	2 5 0		2 10 0				
Anise, Oil of, German, D.P....lb	0 9 6		0 9 6	F. lb 1 4		——	133
E. I. .....lb	0 5 0		0 5 6	E. I. 1 4		1,169	653
Asafœtida, B.D. c	1 10 0		3 10 0	c 6 0		20	38
Balsam, Canada, D.P. .....lb	0 1 0		0 1 1	lb 0 1		10,728	5,896
Copaiba, BD.....lb	0 2 6		——	c 4 0		384	90
Peru, BD. .....lb	0 4 9		——	lb 1 0		508	1,798
Benzoin (best) BD..... c	25 0 0		50 0 0	c 4 0		95	72
Camphor, unrefined, BD..... c	10 0 0		——	c 1 0		320	403
Cantharides, D.P. .....lb	0 3 3		0 3 6	lb 1 0		11,711	9,963
Caraway, Oil of, D.P. .....lb	0 8 0		0 8 6	lb 4 0		810	580
Cascarilla or Eleutheria Bark, D.P.C.	3 10 0		——	lb 0 1		1,109	4,579
Cassia, Oil of, BD.....lb	0 7 0		——	lb 1 4		1,843	2,908
Castor Oil, East India, BD.....lb	0 0 4		0 0 10	c 1 3		4,260	4,115
West I. (bottle) D.P. 1½ lb	——		——	——			
Castoreum, American .....lb	0 17 0		0 18 0	lb 0 6		467	782
D.P. Hudson's Bay .....lb	0 18 0		1 0 0				
Russian.....lb	none						
Catechu, BD. Pale c	1 3 6		——	c 1 0		26,061	22,562
Dark	1 7 6		——				
Cinchona Bark, Pale (Crown)....lb	0 2 0		0 3 6	lb 0 1		31,792	84,538
BD. Red .....lb	0 2 0		0 4 0				
Yellow .....lb	0 3 6		0 3 8				
Colocynth, Turkey .....lb	0 1 6		0 2 9	lb 0 2		7,088	7,619
D.P. Mogadore .....lb	0 1 0		——	lb 0 2		8,597	17,939
Calumba Root, BD. c	0 12 0		1 15 0	lb 0 6		29,979	17,447
Cubebs, BD. c	2 10 0		——	c 4 0		43	74
Gamboge, BD. c	5 0 0		15 0 0	c 4 0		355	286
Gentian, D.P. c	1 6 0		1 8 0	c 6 2		4	39
Guaiacum, D.P.....lb	0 1 0		0 3 0				
Gum Arabic, Turkey, fine, D.P... c	11 0 0		——	c 6 0		4,819	3,355
Do. seconds, D.P. .. c	7 10 0		——				
Barbary, brown, BD. c	1 17 0		1 18 0				
Do. white, D.P..... c	5 10 0		——				
E. I. fine yellow, BD. c	2 5 0		2 14 0	c 6 0		5,216	3,575
Do. dark brown, B.D. c	1 15 0		2 5 0				
—— Senegal garblings, D.P. c	0 3 6		——	c 6 0		14,036	13,884
—— Tragacanth, D.P. c	0 8 0		0 12 0	c 6 0		66	397
Iceland Moss (Lichen), D.P. ....lb	0 0 2½		0 0 3	lb 0 1		15,933	5,179
Ipecacuanha Root, B.D. .....lb	0 1 9		0 2 0	lb 1 0		4,876	9,923
Jalap, BD. .....lb	0 2 0		——	lb 0 6		26,948	15,315
Manna, flaky, BD. .....lb	0 3 0		0 3 6	lb 0 3		8,616	4,662
Sicilian, BD. .....lb	0 1 7		——				
Musk, China, BD. .....oz	1 0 0		2 0 0	oz 6 0		1,234	1,339
Myrrh, East India, BD. c	5 0 0		14 0 0	c 6 0		189	110
Turkey, BD..... c	2 0 0		11 10 0				
Nux Vomica, BD.....lb	0 8 0		0 9 0	lb 2 6		225	740
Opium, Turkey, BD. .....lb	0 15 0		——	lb 1 0		23,630	17,718
Peppermint, Oil of, F. BD.....lb	0 17 0		——	lb 4 0		1,382	637
Quicksilver, BD. .....lb	0 3 10		——	lb 0 1		199,335	222,671
Rhubarb, East India, BD.....lb	0 2 6		0 4 0	lb 1 0		19,933	23,707
Dutch, trimmed, D.P. lb	0 3 6		0 5 0	F. lb 1 0		2,281	4,389
Russian, BD. .....lb	0 12 0		——				
Saffron, French, BD. .....lb	0 17 0		——	lb 1 0		2,787	3,492
Spanish .....lb	0 18 0		0 18 6				
Sarsaparilla, Honduras, BD.....lb	0 1 0		0 1 9	lb 0 6		80,336	85,600
Lisbon, BD. .....lb	0 2 0		——				
Scammony, Smyrna, D.P.....lb	——		——	lb 2 6		6,201	5,419
Aleppo .....lb	0 18 0		1 0 0	E.I. lb 0 6		82,190	50,674
Senna, East India, BD. .....lb	0 0 3		0 0 4				
Alexandria, D.P.....lb	0 1 4		0 1 8	Other sorts 0 6		52,315	43,430
Smyrna, D.P. .....lb	0 1 0		0 1 3				
Tripoli, D.P. .....lb	0 1 0		0 1 3				

‡§‡ BD. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

VARICOSE CAPILLARIES.

NOTES FROM MR. ARNOTT AND MR. KIERNAN.

To the Editor of the Medical Gazette.

Sir,

Mr. Kiernan has called my attention to the following passage, which occurs in a recent publication of Dr. Hake; and as the fact therein stated is propounded as a recent discovery, he has appealed to me for my testimony on this point:—

"The new vessels do not shoot into albuminous or other deposit, as some have supposed; but proceed, in the form of flocculi, from a vascular base, become varicose, and again give off branches."

In answer to the appeal of Mr. Kiernan, and in common justice to that gentleman, I feel bound to declare that I have known of the existence of these vessels, in connection with carcinoma, for three years; that they were originally shewn to me by Mr. Kiernan; that I have mentioned them in my surgical lectures at King's College during the last two years, as the discovery of that gentleman; that the language I used in describing them was, "that these vessels shot into space, and not into any bed previously prepared for them;" and that I had seen such vessels shooting from the inner surface of the peritoneum.

I am, sir,
Your obedient servant,
James M. Arnott.

New Burlington Street,
Aug. 28, 1839.

To the Editor of the Medical Gazette.

Sir,

Not having yet obtained all the information I require, I must defer replying to Dr. Hake's statement, inserted in your journal of last week.

I am, sir,
Your obedient servant,
F. Kiernan.

33, Beaumont Street,
Aug. 29, 1839.

SYRUP OF COPAIBA.

Mouchon recommends a syrup as a good form of giving copaiba. Four ounces of the purest copaiba are to be rubbed in a marble morter with 32 grains of calcined magnesia, till perfect union takes place; 64 drops of oil of peppermint and 62 ounces of simple syrup are then to be added with continual stirring, until a homogeneous syrup is produced, which is to stand for 24 hours, and then be poured into bottles. Or, 4 ounces of the balsam may be made into an emulsion with 2 ounces of gum arabic in 2 ounces of water; and this may then be mixed with the oil of peppermint and the simple syrup.—*Journ. de Pharm. du Midi* and *Schmidt's Jahrb.*

A MEDICAL PATRIARCH.

M. Asclar, of Lille, an eminent physician, had twenty-two children; seventeen sons, who all practised physic with success, and five daughters, who were midwives. M. Asclar is now in his hundredth year; he enjoys all his faculties, and still serves the cause of humanity by his advice, and by giving the fruits of his long experience at the consultations to which he is daily called.—*Gazette des Hôpitaux.*

BOOK RECEIVED FOR REVIEW.

A System of Anatomical Plates, with Descriptive Letterpress. By John Lizars, F.R.S.E., &c. Edinburgh [Second edition], Part I.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Aug.* 27, 1839.

Abscess	1	Hæmorrhage	1
Age and Debility	17	Heart, diseased	1
Apoplexy	1	Hooping Cough	2
Asthma	1	Hydrophobia	1
Cancer	2	Inflammation	9
Consumption	29	Bowels & Stomach	1
Convulsions	35	Brain	3
Dentition	7	Lungs and Pleura	4
Dropsy	5	Measles	14
Dropsy in the Brain	3	Mortification	2
Dropsy in the Chest	1	Small-pox	2
Dysentery	1	Unknown Causes	98
Fever	13		
Fever, Scarlet	5	Casualties	4
Fever, Typhus	1		

Increase of Burials, as compared with the preceding week . . . 121

NOTICES.

Dr. Badham's letter on the Glasgow Professorship in our next.

Mr. Chatto's paper shall appear as soon as we can make room for it.

Dr. Waller's packet has been received.

Erratum.—In our last No. p. 816, c. 1, line 33, *for* "thorax," *read* "thoracic complication."

Wilson & Son, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 7, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Hæmaturia — Bloody urine may arise from many causes, some of which (calculus, for example) we have already considered at considerable length. But the source of the blood is various, and in many cases very obscure. If the urine contain blood, by allowing it to stand, we shall often find it clot, enveloping the red particles, which are easily recognized in the field of the microscope. Sometimes the blood is found in strings, and, indeed, in some formidable cases, blood almost pure is voided instead of urine. It is evident that urine containing blood will likewise contain the other constituents; hence we shall find both fibrin and serum in such urine. The serum, of course, may be determined either by heating it to 160° Fah., when it will coagulate, or by precipitating the albumen with ferro-cyanide of potassium. In some cases the fibrin is found coagulated, and then appears like *worms* or bits of hair.

Diagnosis.—The detection of blood voided in very small quantity may prove a matter of some little difficulty, especially if the urine be otherwise very unnatural, and contain matters which can obscure the appearance of the blood. However, if time be given, in general the blood will gradually subside—that is, the red particles—and may then be more thoroughly examined and more certainly determined under the microscope. The fibrin, too, in many cases will be found coagulated, particularly if the urine be at all acid; and in such cases it often assumes the appearance of *worms*, as stated above.

But the blood may be derived from several sources: it may come from the kidney, ureter, bladder, or urethra; and it is of the greatest importance to determine from which of these sources the blood is derived. The ancients appear to have been more attentive to these points than many even of the moderns. When blood proceeds from the kidneys, if it arise from calculus, there will be symptoms such as have been already described under the head of renal calculi. When the blood is uniformly diffused throughout the whole urine, and that there are small threads resembling worms, and which consist of coagulated fibrin moulded in the ureter, and afterwards washed out with the urine, there can be little doubt of the renal source of hæmorrhage*. A sudden voiding of blood also with the urine, is considered by Hippocrates as indicating the rupture of a vessel in the kidneys †.

It cannot well be determined whether blood come from the kidney or ureter;

* Ὁκόσοισιν ἐν τῷ ὄυρῳ παχέϊ ἐοντι σαρκία σμικρὰ, ἢ ὥσπερ τρίχες ξυνεξέρχονται, τουτέοισιν ἀπὸ τῶν νεφρῶν ἐκκρίνεται.—Hipp. Aphoris. sect. iv. aph. 76.

Si hæc (*sc. urina*) crassa, *carunculas* quasdam exiguas quasi *capillos* habet, aut si bullat, et male olet, et interdum quasi arenam, interdum quasi sanguinem trahit, dolent autem coxæ, quæque inter has superque pubem sunt, et accedunt frequentes ructus, interdum vomitus biliosus, extremæque partes frigescunt, urinæ crebra cupiditas, sed magna difficultas est, et quod inde excretum est, aquæ simile, vel rufum, vel pallidum est, paulum tamen in eo levamenti est, alvus vero cum multo spiritu redditur, *utique in renibus vitium est.*—Cels. de Med. lib. ii. cap. 7.

† Ὁκόσοι ἀπὸ ταὐτομάτου αἷμα οὐρέουσι, τουτέοισιν ἀπὸ τῶν νεφρῶν φλεβίου ῥῆξιν σημαίνει.—Hipp. Aph. sect. iv. aph. 78.

but unless from the mechanical irritation of a calculus impacted, there will be but little chance of ureteric hæmorrhage. In all cases of renal and of ureteric hæmorrhage, but more especially of the latter, if the cause be a calculus, we shall have greater difficulty in voiding the urine, with most of the other symptoms indicative of the presence of calculi in these situations; and in case of the ureteric origin from calculus, we probably shall have more or less of suppression of urine.

But when the blood comes from the bladder, it for the most part comes away towards the termination of the micturition; during the first part, the urine passing off free from blood. Aretæus states, that the blood from the bladder is yellow and thin*. If the urine be thick (says Hippocrates), and that there be a branny or furfuraceous matter suspended in it, the bladder is in a scabious condition†. It is probable that the condition here alluded to is a sort of venous congestion or plethora, which is sometimes observed in the bladder, and is attended with appearances similar to those mentioned by Hippocrates, and in which condition there is a strong tendency to ulceration. The blood which comes from the bladder is sometimes clotted or grumous, and often, as before observed, gives rise to strangury, or even retention of urine‡.

Hæmorrhage from the bladder, like that from the kidney, may arise from a calculus or a diseased condition of the mucous membrane, or from disease of the prostate; but enough has been already said to enable us, unless in very obscure and difficult cases, to determine the nature of the affection.

In highly irritable and inflamed states of the mucous lining of the urethra, blood may be voided from this part. In such cases, however, the hæmorrhage is most active when the patient is not passing any urine. If he pass urine, the blood disappears; but when micturition has ceased, the bleeding recommences, and generally comes away in drops. The urethra, too, in such cases, is always in a highly painful and irritable state. It may, however, happen that the blood may flow back into the bladder, and thus give rise to phenomena resembling vesical hæmorrhage. But even here the blood will clot more or less in the urethra, as well as bladder, and, by blocking up the passage, produce a temporary obstruction to the flow of the first urine from the bladder; but as soon as this obstruction has been washed away by the urine, this flows freely, and there is no more any symptom of hæmorrhage till the urine has been all discharged.

Hæmaturia, if the blood come from the kidneys or bladder, is a serious affection, because it indicates either the presence of a calculous or some other very serious disease. It may indicate ulceration of the bladder or kidney, but more especially ulceration of the bladder, if the urine, with the blood, also contain pus*. Hæmorrhage from the urethra is not so dangerous, unless when arising in old people, in whom the prostate is also diseased. If the quantity of blood be large, and that it flow back into the bladder, it may coagulate there, and thus present a mechanical obstruction to the flow of urine from the bladder, as we have already observed. Sometimes a small clot forming in the bladder may become nucleus for the deposit of calculous matter, and thus give rise to the formation of a stone in this organ.

With respect to the causes of hæmaturia, they are very various. We have already taken into consideration urinary calculi; but sometimes active, sometimes passive, hæmorrhagy takes place from the kidneys and bladder, owing either to particular conditions of these organs, or to constitutional affections, which, in fact, give rise to a hæmorrhagic tendency or diathesis: such are plethora, local congestions, typhoid diseases, scurvy, &c., the particular action of which it is needless here to detail.

Hæmorrhagy from the urethra is very often induced by the mismanagement of gonorrhœa, more especially by the use of urinary stimulants in the first or acute stage. However, it sometimes depends upon particular organic derangements of the canal itself, when it is more formidable.

Treatment.—The treatment, of course, in a great measure will depend upon the nature and causes of the complaint, as well as upon the source from whence the blood is derived. If the blood come from the kidney, and that there be symptoms of inflammatory action in the organ, and

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* Αἱμορῤῥαγέει κοτὲ ἡ κύστις· ξανθόν τε καὶ λεπτὸν τῆδε τὸ αἷμα.—De Caus. et Sig. Acut. Morb. lib. 2, cap. x.

† Ὁκόσοισιν ἐν τῷ ὕυρῳ παχεῖ ἔοντι πιτυρώδεα ξυνεξουρέεται, τουτέοισι ἡ κύστις ψωριᾷ.—Sect. iv. aph. 77.

‡ Καὶ γὰρ, ἦν τὸ αἷμα λεπτόν τε, καὶ ξανθὸν, καὶ μὴ πάγχυ ἦ εὐπαγὲς, ἀλλ' ἡ κὺστις ἐς πολλὸν ἀλίζει χρόνον, καὶ ἥδε θερμαίνουσα καὶ ἐψοῦσα πηγνύει, καὶ ὧδε γίγνεται θρόμβος.—De Caus. et Sig. Diut. Morb. lib. 2, cap. iv.

* Ἦν αἷμα, καὶ πῦον οὐρέῃ, καὶ λεπίδας καὶ ὀσμὴ βαρέη ἔῃ, τῆς κύστεος ἕλκωσιν σημάινει.—Hipp. sect. iv. aph. 81.

the patient be young and vigorous, we must use venesection and the most active antiphlogistic measures. The same means also will be necessary if the hæmorrhage seem to depend upon a congested state of the vessels, more particularly the veins of the kidney. But if the hæmorrhage appear to be more of a passive nature, and depending upon debilitating causes, then a different mode of treatment will be required, and we must have recourse to tonics and astringents. Hæmorrhages of a passive description are apt to occur from various parts, in the latter stages of typhus; and in some instances the kidneys become the source of the blood. In such cases, tonics, especially the di-sulphate of quina, with sulphuric acid, prove highly beneficial. When the bleeding appears to depend upon scurvy, the same means may be adopted; and as the urine in this case is generally neutral or alkalescent, the mineral acids are obviously suitable remedies. When there are no signs of either excitement or debility, then the balsams may be given with advantage, as of copaiba. In some cases I have given the acetate of lead, with acetic extract of colchicum, and with very great advantage; and if the patient be of a gouty habit, colchicum will be found a very valuable remedy. Dr. Prout states that one of the most formidable cases of hæmorrhage from the kidney which he ever saw, and which baffled for a long time every means that the most experienced practitioners could devise, yielded almost immediately to colchicum, and the use of a strong infusion of uva ursi; and the patient enjoyed an immunity for nearly two years*. Many also recommend the tinctura ferri sesquichloridi; but I think this more suitable to those cases in which the bladder is the source of the blood. If the blood be derived from the kidney or ureter, in consequence of calculus, the means recommended under this special affection should be adopted.

As has been already observed, the bladder may prove the source of blood; and this may depend upon various organic alterations, or even disorganization of the tissue; and also upon mechanical irritants, as calculi. Sometimes fungous excrescences of the mucous lining may prove the source of the blood. I have already detailed the circumstances of the case of a coachmaker, at Witham, who was attacked with symptoms resembling stone—frequent efforts at micturition, with inability to pass his urine in any quantity. The urine contained at times a quantity of blood; and sometimes what passed by the urethra consisted almost wholly of blood. He suffered great pain; and the forcing and straining to pass the urine were not only abortive, but proved highly distressing. On sounding, no stone could be felt. I directed the sulphate of morphia, with acetic extract of colchicum, and uva ursi, for him, with a slight tonic afterwards, and he got completely relieved, and was able to go about as usual for the best part of two years, when he died. The appearances on dissection I have described in a former lecture, to which, therefore, I refer you.

In cases of hæmorrhage from the bladder, we must endeavour to ascertain the cause, and treat it accordingly. Thus, if there be a calculus in the bladder, we must have recourse to the means already advised under that head. If it appear to depend upon some morbid condition of the bladder itself, we must endeavour, as far as possible, to remove or relieve the morbid state; and if this be impossible, we must, as far as can be done, attempt to prevent the consequences of such state. The means most effectual are colchicum, uva ursi, and morphia, with the mineral acids, especially the hydrochloric, and the tinctura ferri sesquichloridi, which latter may be given in combination with the acid, in doses of from twenty to thirty, or forty minims, three or four times a day, till some sensible effect has been produced.

When the blood flows from the urethra, it generally depends upon some highly irritable state of the lining membrane caused mostly by improperly treated gonorrhœa. In such cases, leeches to the perineum or penis, with poultices to restore the discharge, are the most effectual means. I have in two cases seen general bleeding necessary, but generally speaking the means above mentioned will prove sufficient.

In cases where it depends upon chronic disease of the urethra and prostate, as in old persons, the treatment must be regulated by the special circumstances.

In all cases of urinary hæmorrhage, the bowels, and indeed all the functions, should be attended to: rest in the horizontal posture, and a strict abstinence from all excitants adopted, otherwise no treatment, however active or judicious, can be productive of the slightest benefit.

Mucous and purulent urine.—We have already considered the mucous urine under the head of catarrhus vesicæ; and when the urine abounds in mucus, we may almost always consider this as derived from the internal lining of the bladder. The kidneys, perhaps, hardly ever secrete mucus in very large quantity, so that we can seldom have any difficulty in referring such morbid action to the mucous lining of the bladder. "There is, however," says Prout,

* On Diabetes, &c. pp. 298, 299.

"a species of secretion which is usually called mucus, and which, for want of a better name, may be distinguished by that term, which is frequently thrown out in great abundance by the kidneys, when disorganized or containing cysts. This may be sometimes distinguished by its peculiar appearance, and by its property of undergoing a sort of imperfect coagulation or gelatinization, like fibrin, of which it seems to be a modification *." In such cases the urine will be found to contain albumen, for it appears to contain the serum of the blood, and hence its albuminous character. If examined by litmus reddened by a very weak or diluted acid, the urine in such cases will be found alkalescent, or if not absolutely so, it becomes alkaline very soon after being passed. In very severe or long protracted cases, the urine is voided alkaline, the decomposition of the urea, and the evolution of carbonate of ammonia which is the consequence, taking place in the bladder, or even in the kidneys themselves; and the urine being thus rendered more acrimonious, all the sufferings of the patient are in consequence greatly aggravated.

When the mucus is in small quantity, as in the commencement of the disease, the urine, when first passed, is slightly turbid, but becomes transparent after standing for some time, or after being filtered. In the first case the mucus subsides, leaving the supernatant urine of its natural transparency; but in the second the mucus is retained, and will be found on the filter. But in the advanced stages the secretion partakes more of the purulent character, and the urine is permanently turbid, nor can it be cleared, even by filtration. I fortunately happen to have, just at this moment, a specimen, brought to me a day or two ago by a medical gentleman from the country. Although this has been standing for some time, and has deposited a copious muco-purulent looking sediment, the supernatant urine is still opaque. Here is a portion which has been filtered, and it, as you see, continues opaque. Boiling it, however, causes it to become of its natural transparency, and you see the purulent character of the sediment. So, also, the addition of alkalies, as ammonia or potass, as you see in these examples, carries down the sediment, leaving the urine above transparent. Acids have not this effect, although the phosphoric acid, by its solvent action upon mucus, will render urine slightly turbid from this principle transparent, provided pus be not present, and that the mucus have not undergone any great morbid change.

* On Diabetes, &c. p. 300.

In many instances of purulent urine the urine itself is acid, although the pus be alkaline. You see in the example before you that the urine strongly reddens litmus paper; but the muco-purulent matter upon the filter, as you see, turns turmeric paper brown. This arises from its alkaline qualities. It is stated, that in such cases it may generally be inferred that the pus is derived from an abscess in the neighbourhood of the kidneys, or that the kidneys are only partially affected*. But the bladder is often in such cases the source of the pus, either from ulceration of its internal coat, in which case it is often intermixed with blood and serum, or from the mucous lining taking on a diseased action, like other mucous membranes, and secreting, instead of the natural mucus, a diseased mucus intermixed with pus. If, however, the urine, after the separation of these matters by boiling, prove to be unnatural, we may then conclude that the kidneys are to a certain extent involved. Hippocrates, indeed, asserts that either blood or pus voided with the urine indicates ulceration of either the kidney or bladder†; but the diseased action of mucous surfaces, and the agency exerted upon the properties of their secretions, under such circumstances, were not so well understood in his day.

Most of the causes of purulent urine have been already considered. Inflammation may end in the secretion of pus, with or without ulceration. The irritation of a foreign body, as a calculus, often gives rise to the appearance of diseased mucus or pus in the urine; and ulceration of the bladder, and of different parts of the urinary apparatus, may give rise to the presence of pus. Gonorrhæa also, in which the mucous lining of the urethra secretes a large quantity of pus, and which is washed away at each micturition, will often be attended with a purulent state of the urine; and the same phenomena may result from gleet and stricture, in which latter affection there is very often a gleety discharge, containing pus, and which is frequently produced in very large quantity.

Treatment.—The treatment of mucous or purulent urine, of course, will depend upon the nature of the cause. We have already considered one form of mucous urine, under the head of catarrhus vesicæ. When the bladder is healthy, and merely irritated by the presence of a foreign body, for instance, a calculus, the first effect is an increase in the quantity of mucus secreted. At first, perhaps, the mucus un-

* Ibid. p. 301.

† Ἢν αἷμα ἢ πῦον οὐρέῃ, τῶν νεφρῶν ἢ τῆς κύστεος ἕλκωσιν σημαίνει.—Hip. Aph. sect. iv. aph. 75.

dergoes no morbid change, and it comes away uniformly diffused through the urine, rendering it slightly turbid; but after a time the mucus subsides, leaving the urine tolerably clear. But after a time the mucus becomes both increased in quantity and altered in its properties, when it becomes viscid and tenacious, as in catarrhus vesicæ. We distinguish the two cases by the general facts, the previous history, and the existing properties of the urine. If there are no co-existing circumstances to which the appearances can be more decidedly referred, we may regard the case as one of stone in the bladder, which view, perhaps, the sound will confirm, and treat the case accordingly. The principles have been already explained.

When, however, the quantity of mucus greatly exceeds the proportion that might be accounted for upon the above principle, and that the urine, though it have an acidulous reaction, yet contains albuminous matter, we may suspect such a state of morbid vascularity in the coats of the bladder as prevails in cystirrhœa, which may be treated accordingly—by local or even general bleeding, if the pulse be hard and the fever intense, which is generally the case.

When the quantity of mucus is inordinately large, or comes away in large flakes, and that the urine is white, or of a sort of brownish muddy appearance, or wheyish, and that it remains turbid, even after being left at rest for a considerable time, or that it deposits a sort of pulverulent-looking matter, to be again easily diffused through the urine—if, with these, the urine has a very foul, fetid smell, and an alkaline reaction, and, still more especially, if it contain blood, the coats of the bladder may be looked upon as more or less in a state of disorganization, the effects of which have spread to the kidneys. This condition, though it may be greatly ameliorated by the treatment recommended under the head of cystirrhœa, yet it is not in our power to effect a radical cure; and, therefore, all we can attempt is a palliative treatment. In all cases, the state of the urine should be carefully attended to, and morbid conditions, as far as can be, corrected.

In males, mostly, the prostate gland becomes more or less involved in the affections of the bladder above described; and when the irritation is great the secretion of the gland becomes increased, and may be detected in the urine. We have already stated the properties of the prostatic secretion, and how it may be recognized. When the prostate only is affected, the urine, for the most part, has an acidulous reaction; but when the gland is sympathetically or secondarily affected, the urine, for the most part, if examined, will be found unhealthy, and generally alkaline; and there is nothing which has a greater effect in producing irritation of the prostate than alkaline urine—hence the necessity of examining and correcting such morbid conditions, if present.

With respect to purulent urine, the discrimination between pus and some of the diseased forms of mucus is not very easy. We have already shewn that pus and mucus, examined by the microscope, present a globular structure; the only method, therefore, of determining the matter is by the chemical action of ether, which, digested on pus, dissolves an oily envelop, the existence of which, it is asserted, distinguishes the globules of pus from those of mucus, which latter have no such covering. In cases of purulent urine, if arising from calculus or inflammatory action, it must be treated as already mentioned under the several heads. As the presence of pus, however, indicates rather a reduction of inflammatory action than its acmé, the antiphlogistic measures should be less active than in the intensity of inflammation. Probably, in most cases the means detailed under the head of ulceration of the bladder would not be inappropriate under any circumstances. When the discharge of pus assumes a chronic character, hydrochloric acid, the tincture of sesquichloride of iron, colchicum, the balsams, and the different urinary astringents, seem the most appropriate remedies, the exhibition of which has been already treated of at sufficient length in some of the former lectures, to which therefore I refer.

VELPEAU'S
CLINICAL LECTURES
ON
OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S.
Sorbon.

INFLAMMATORY AFFECTIONS OF THE CORNEA.

Acute Keratitis, continued.—General treatment.—Blood-letting.—Blisters, Setons, Moxas, &c. &c.

The description I have just given of acute keratitis must have proved to you how extremely important it is that the treatment should be well understood. If, however, you consult what has been said on the subject by different authors, you will find that it yet remains a complete chaos. Indeed, nothing can more clearly show the utility—nay, the necessity—of studying the inflammatory affections of the eye, in

the tissue which the inflammation attacks, than the confusion which reigns in the treatment of keratitis: it is one of those diseases against which nearly every remedy has been in its turn tried, lauded, and then abandoned. With some practitioners every thing succeeds; with others, every thing fails. Some advocate general measures, to the exclusion of local treatment; others, again, uphold local applications as being the most beneficial. This diversity of opinion originates, no doubt, in the little attention which has been paid to the diagnosis of the different forms of keratitis, and to the opinions which nearly all ophthalmologists entertain respecting the specific nature of the disease. I do not flatter myself that I have solved this question, but I think I am now able to say, that in one case the disease may be cured, whereas in another a favourable termination is not to be expected—to say why a remedy succeeds, or why it does not succeed; otherwise the distinction I have established between the various forms of keratitis, by separately studying the inflammation of each part of the cornea, would be of no value; precision in the diagnosis of disease being only desirable as a means of throwing additional light on its treatment.

The treatment of acute keratitis, like that of most other diseases, is general and local.

General treatment.—When treating of the inflammatory affections of the palpebræ, I proved by a number of facts that little reliance, comparatively speaking, could be placed on general treatment, and that it ought only to be considered as an adjuvant to local measures. This cannot, however, be said of keratitis, against which general treatment stands pre-eminent, although it is still frequently necessary to resort to local applications. I shall now merely speak of the treatment of acute keratitis, setting aside every thing relating to the various phenomena by which it may be complicated.

The therapeutical agents which enter into the treatment of keratitis may be divided into two classes. The first comprises blood-letting and external derivatives; the other, purgatives and alteratives.

Blood-letting.—When the inflammation is intense, it is well to commence the treatment by general blood-letting. I need scarcely add, that the quantity of blood abstracted must be proportioned to the constitution of the patient, and to the state of his health at the time. Much discussion has arisen as to whence the blood should be taken—from the veins of the arm, or from the temporal artery. Judging *à priori*, arteriotomy would seem most likely to produce the desired effect. I have not myself resorted to this operation often enough to speak very decidedly on the subject: I must, however, say, that neither the cases in which I have practised it, nor the arguments brought forward in its favour, have yet convinced me of its superior efficacy. Some practitioners have also asserted, that when venesection is employed, the external jugular vein ought to be preferred to the veins of the arm. This appears rational; but when we consider how difficult it often is to obtain a sufficient quantity of blood from the jugular vein, and how important it is, at the same time, that the progress of the inflammation should be arrested, I think we cannot but prefer the usual plan of performing venesection in the bend of the arm.

Another important question is, the extent to which bleeding should be carried, and the manner in which it should be practised. I have made numerous experiments with a view to elucidate the point, and have come to the following conclusion. If the patient is young, robust, and of a plethoric habit of body, I bleed copiously, to the extent of eighteen or twenty ounces, and repeat the bleeding the next day; sometimes, also, the third day, as the inflammation, which at first rather subsides, might otherwise reappear. If, on the contrary, the patient is rather weak, I take a smaller quantity of blood at first, and repeat the bleeding at greater intervals. With patients of an ordinary constitution, bleeding night and morning, for several days, according to M. Bouillaud's plan, appears to be attended with beneficial results. General bleeding, in most cases, gives great relief. The following day you will nearly always find that the cephalalgia, the burning heat, the epiphora, and the photophobia, are much less intense; but they do not disappear entirely, and indeed often return. The loss of blood seems merely to act against the tendency of the system in general to inflammation; if no other measures are adopted, the disease either remains stationary, or assumes the chronic form.

Leeches are by no means so efficacious a remedy as general bleeding, yet in some instances they ought to be preferred; when for instance, the patient is of a weak constitution, or of a lymphatic temperament, or when the circulating fluid has been impoverished, or its quantity diminished, by disease or by previous bleeding. When a patient is in this state, fifteen leeches applied behind the ear will have as beneficial an effect as copious general bleeding in a robust person. Leeches may be applied to the mastoid region, to the temples, to the inner canthus of the

eye, or to the internal surface of the eyelids. I seldom, however, apply them to the inner canthus, as I am not aware that any great advantage is to be derived from this expedient, and in private practice they very frequently alarm the friends of the patient, by the swelling and infiltration they produce. Nor do I apply them to the internal surface of the eyelids, the relief they give to the patient being too slight to counterbalance the trouble they occasion.

The abstraction of blood by cupping may be classed along with leeches, and resorted to in similar circumstances. It is generally attended with beneficial effects when the inflammation tends to become chronic.

Blisters, Setons, Moxas, &c.—Blisters applied to the nape of the neck have been much employed in the treatment of keratitis. If, however, the effects they produce are minutely analyzed, we shall find that they exercise much less influence over the march of the disease than is generally supposed. Combined with other measures they may be useful, but alone they cannot cure; indeed, I am inclined to think that the application of blisters to the neck—the region which is generally chosen—does more harm than good. In some persons, especially children, they occasion a local reaction, which is followed by swelling of the lymphatic glands of the neck. When the keratitis is cured, the blister is allowed to heal, but the lymphatic system has been excited, and the swelling of the glands continues. In many instances I believe that children have been looked upon as scrofulous, although the presence of the characters which are supposed to denote this affection was to be attributed solely to such a cause. Little benefit, you see, is to be derived from blisters when employed in the usual manner; I wish, therefore, to direct your attention to a peculiar mode of applying them to which I have frequently recourse; I allude to the application of blisters over the eyelids themselves—a measure which is nearly always followed by the most beneficial results. This plan of treatment, which I ought, perhaps, to have described when speaking of local remedies, has been tried in purulent ophthalmia, but we have no satisfactory account of the essays which were made. At first it seems irrational, and even dangerous; when, however, we examine the subject more minutely, we find that it is neither in contradiction with practice nor theory. It was, indeed, from theoretical views that I was induced to make use of the remedy. Recollecting that I had seen obstinate cases of ophthalmia disappear under the influence of the irritation caused by an external affection, it occurred to me that a large blister over the eyelids might, by producing a kind of artificial erysipelas, be followed by the same results. I had already at that time studied the distribution of the vessels of the eye and of the eyelids, and was aware of the intimate connection which exists been them. Being anxious to ascertain the practical value of these ideas, I resolved to try the plan on the first obstinate case of ophthalmia that presented itself. This I had soon an opportunity of doing on an old soldier, who had just returned from Africa: both his eyes were violently inflamed, and I had a large blister applied over each. I was not, I must confess, quite easy with regard to the result of the step I had taken, and was consequently much pleased to hear him say the following morning that the pain had considerably abated. In two or three days I was able to open the eyelids, and then found that great amelioration had taken place. The eye continued to improve for about ten days: the affection then appearing to be stationary, I had again recourse to blisters, with the same beneficial results as before. This patient was not however cured, but we must not forget that he was labouring under one of the most obstinate forms of ophthalmia—keratitis accompanied by granular conjunctivitis. Since then I have employed blisters over the eye more than a hundred times in every form of inflammation, principally with a view to ascertain when they ought to be used. I have found them an extremely useful remedy in conjunctivitis, in superficial and in deep-seated keratitis, and especially in ulcerated keratitis. The counter-irritation they produce appears to dissipate the congestion of the tissues, to arrest or prevent the effusion of coagulable lymph, and to modify the ulcerations, if any exist. They are not, on the contrary, very beneficial in blepharitis, purulent ophthalmia, in inflammation of the interior of the eye, nor even in keratitis when the inflammation has assumed the chronic form: in this case topical applications are the best remedies we can employ.

Some few years ago, when I wished to ascertain the comparative efficacy of this remedy in the different forms of ophthalmia, I employed it nearly indiscriminately; but now that I know in which form it is likely to prove the most beneficial, I have recourse to it much less frequently. Another reason which often deters me from applying blisters when I otherwise should, is the repugnance which patients, especially in private practice, manifest towards them. This repugnance is founded on the supposition that the application of a blister in this region will occasion great pain, and be followed with much disfigure-

ment. The blisters themselves are, however, much less painful than is generally supposed, and the pain which was felt before nearly always abates in a very short time after they have been applied. If you question a patient with a view to ascertain the fact, you must remember that he is suffering two distinct kinds of pain—that caused by the blister, and that caused by the ophthalmia; you must, therefore, endeavour to make him distinguish between the two. The alarm which females generally shew, from the supposition that the application of a blister over the eye will be followed by more or less disfigurement, is also without the least foundation, for the epidermis alone being destroyed, the skin soon loses the red tint which it has at first. I have seen persons over whose eyes four or five blisters had been applied successively, without the slightest trace of redness a few weeks after. Still, as these prejudices are difficult to overcome, I should not advise this plan of treatment unless you think it necessary.

When blisters are applied over the eyelids, some precautions are necessary; I will, therefore, tell you briefly what is to be done. The patient must close his eyelids gently, without contracting them, as they would otherwise be more or less folded, and the blister would not cover their entire surface. The blisters must be then carefully applied, in such a manner as to be in contact with every portion of the external surface of the palpebræ, and over it is placed some lint or cotton to fill up the cavity of the orbit, in order that compression may be equal. A bandage carried a few times round the head and over the eye will suffice to keep every thing in position. You will generally find the eyelids much swollen the next day, when the blister is taken away; it must be dressed as usual, without any attempt being made to see the eye. In the course of two or three days the swelling diminishes, the eyelids become hardened, and the eye may be freely examined. Although the pain generally diminishes in the course of a few hours, the amelioration produced by the blister is not very sensible for a day or two. The symptoms are then found to abate, and they continue to do so for about ten days. when it becomes after requisite to repeat the blister. It is necessary that you should be aware that the amelioration does not take place at first, as you might otherwise be led to despair of any effect being produced, and employ some other remedy, to which the subsequent improvement would be attributed.

In conclusion, blisters over the eyelids seldom effect a cure alone, but they nearly always diminish the violence of the disease, even when every other plan of treatment has failed to do so, and thus enable you effectually to overcome the malady. I have repeatedly found this the case in obstinate inflammatory affections of the cornea accompanied by ulceration.

Many practitioners have of late endeavoured to substitute for the cantharides plaster some other substance capable of producing vesication, in order to avoid the action of the cantharides on the urinary organs. Various therapeutical agents have been tried, among which ammonia and tartarized antimony occupy the first rank; indeed, so much attention has been paid to this last remedy, that I cannot pass it over in silence. I have frequently employed it under the form generally used, that of an ointment. It gives rise to a crop of numerous small pustules, and the effect, as also that of ammonia, seems to me similar in every respect to that produced by blisters, on which, you know, I do not place much reliance, when applied in the usual manner.

Setons are often productive of benefit. The irritation they occasion in the subcutaneous fibro-cellular tissue appears to exert more or less influence over the inflammatory affections of the cornea, whereas blisters, which are applied to the skin, appear more especially to act on the affections of the conjunctiva. There is, indeed, some analogy between the fibro-cellular tissue, which is the seat of the irritation when a seton is used, and the tissue of the cornea, on the one hand, and the organization of the skin, and that of the conjunctiva, on the other. I do not know whether these theoretical ideas are correct, but the remark which preceded them is certainly justified by practice. Although setons sometimes give rise to erysipelas, and to abscesses, I have often recourse to them when the keratitis resists the action of other remedies.

CLINICAL REPORTS OF DIFFICULT CASES IN MIDWIFERY.

By Robert Lee, M.D., F.R.S.

Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital.

[Continued from p. 832.]

FOURTH REPORT.

Forty-two Cases of Difficult Labour, in which the Forceps was applied.

Case LXXXI.—In June 1833, Mr. Evans, of Mortimer Street, requested me to see a patient who had been nearly thirty hours in labour with her first

child. Though the pains were strong, and the head was at the outlet of the pelvis, it had made no progress for ten hours. Twelve ounces of blood were drawn from the arm, and a stimulating enema thrown up. After waiting several hours without any change taking place in the situation of the head, and exhaustion occurring, I applied the forceps with great ease, and delivered in less than half an hour. I took off the blades when the head was passing, to prevent laceration of the perineum. The child breathed, but died in a few minutes. The umbilical cord was found twisted three times round the neck; and this was probably the cause of the difficulty experienced in the labour, and the death of the child. Ever since the occurrence of this case, I have endeavoured to ascertain, before applying the forceps, whether the cord surrounded the neck, and pulsated.

Case LXXXII.—On the 26th January, 1834, I was called to deliver a lady, æt. 26, who had been thirty hours in labour with her first child. The head of the child had remained ten hours in the pelvis without making any progress, and she was much exhausted. The parts were not very rigid, and no difficulty was experienced in applying the forceps and extracting the head; but in doing this, in spite of all the care I could employ, the perineum was slightly torn. The cord was twisted firmly round the neck of the child, and it did not pulsate. The child could not be made to breathe. Inflammation of the vagina took place, but no sloughing. In a few months the health was restored, and she has since had three labours, which were all perfectly natural.

The ergot of rye had been given before I was called to this patient, and it had the effect of increasing the pains, but not advancing the head.

Case LXXXIII. — April 1835. I delivered a patient in the lying-in ward of the St. Marylebone Infirmary, with the forceps. The cord was round the neck once, and it pulsated very feebly. The pulsations of the heart continued for some time, but the child could not be made to respire. Inflammation of the uterus followed. Had this case been left to nature, which I now think it might safely have been for some hours longer, it is not improbable but the child might have escaped.

Case LXXXIV.—On the 8th July, 1839, I was called to a patient 37 years of age, who had been in labour with her first child about fifty hours. The os uteri was not fully dilated, and it was thick and rigid, and was pressed down with the head through the brim of the pelvis. The pulse was 60; tongue loaded. The pains were strong and regular, but produced no effect in advancing the head. An attempt had been made to deliver with the forceps, but only one blade could be introduced. Fourteen ounces of blood were taken away, and an enema administered. For a short time after this the head seemed to advance, but in four hours the pains had nearly gone off, and she seemed much exhausted. The head was perforated, and, from the difficulty afterwards experienced in extracting it, there could be no doubt that delivery was impossible by any other means. No bad symptoms followed.

On the 9th July, 1839, at 11½ A.M., I was called to another case of protracted labour, in which it was proposed to deliver with the forceps, though the head was so firmly impacted in the brim of the pelvis that it was impossible to pass the finger around it without much difficulty, and giving great pain. The bones were squeezed over one another very much, and all the soft parts of the mother were swollen and tender. It was the first child, and the labour had lasted the whole of the Sunday night and Monday until the Tuesday forenoon, when I first saw her. The pulse was excessively rapid; the tongue loaded; countenance swollen; great general exhaustion. The meconium was passing, and the discharges were extremely fœtid.

After opening the head I was obliged to employ long-continued and great force before I could succeed in extracting it.

For several days she was in a state of great danger from retention of urine, and violent inflammation of the vagina. The symptoms, however, subsided without any sloughing or permanent mischief in the parts.

On the 26th of the same month, 1839, another case, somewhat similar, occurred to me in private practice; but in it there was distortion of the brim, and

a hard cicatrix of the vagina, the result of injurious pressure in a former labour. Here, also, it was proposed to use the forceps.

Case LXXXV. — Mr. Cathrow, of Weymouth Street, on the 20th April, 1838, requested me to see a woman residing in Weymouth Mews, 35 years of age, and whose labour was greatly protracted. It was the first child. The head was sufficiently low for the forceps, and it was easily applied; but by no force that we dared exert would the head move forward, and it was perforated. The extraction of the head with the crotchet was a tedious and difficult operation; she, however, recovered favourably.

Case LXXXVI.—August 19th, 1834, I attended a lady, 36 years of age, who had a very protracted labour from rigidity of the os uteri, and feeble irregular uterine action. Dr. H. Davies saw her with me, when the pains had nearly ceased, and considerable exhaustion had taken place. Blood-letting, cathartics, and anodynes, had produced little effect upon the os uteri in the earlier part of the labour. Dr. Davies applied the forceps with his usual dexterity, and soon extracted the head. The child never could be made to respire in a regular manner, and died in convulsions in a few hours.

Hæmorrhage of the most dangerous character followed the birth of the child; and after the placenta was extracted, a severe rigor took place, and for many hours the pulse could scarcely be felt at the wrist. She, however, ultimately recovered, but her life was certainly exposed to the greatest danger, by our delaying too long to deliver, in the expectation that the head of the child would come sufficiently low for the forceps.

Case LXXXVII.—In the case of accidental uterine hæmorrhage, on the 24th October, 1835, in the St. Andrew's Parochial Infirmary, and which has been related in the Second Report, I delivered with the forceps, but the child was dead. The cord was round the neck.

Case LXXXVIII.—August 17, 1836. Mrs. A——, ætat. 25, in the eighth month of her fourth pregnancy. Yesterday (the 16th August) dined on currie and rice, and ate bacon and eggs at tea. At one o'clock on the morning of the 17th, awoke with violent pain in the back part of the head, and sickness, for which she took a strong cathartic. A physician was called to her soon after, and ordered five grains of calomel and an antispasmodic draught, which relieved the symptoms. During the forenoon she remained in a drowsy state, without complaining. At midday a fit of convulsion occurred. At 3 P.M. another and more violent fit followed. I saw her soon after this: the pulse was extremely rapid and feeble, and it became altogether imperceptible at the wrist on the abstraction of eight ounces of blood from the arm. More blood would not flow from a large orifice in the vein. The orifice of the uterus was slightly open, and the labour pains were commencing. I ruptured the membranes, and discharged the liquor amnii. An hour after, four ounces of blood were removed from the temple by cupping, when the pulse again became imperceptible. At 6 P.M., the os uteri being fully dilated, and the head in the pelvis, I delivered with the forceps. The child was dead. The convulsion fits continued, and she died at 8 P.M.

Case LXXXIX. — On the 1st of March, 1836, a middle-aged woman, accustomed to the use of stimulants, was attacked with convulsions in the first stage of labour. Twenty-five ounces of blood being taken from the arm, without any relief, she was delivered of a dead child by the forceps. The fits continued afterwards till she died. The head was examined after death, and the vessels of the brain were reported to have been unusually distended with blood. Both this and the preceding case would probably have terminated fatally whatever plan of treatment had been adopted.

Case XC.—In August 1836 I was called to a case of puerperal convulsions in the lying-in-ward of the Saint Marylebone Parochial Infirmary. The patient had been long in labour, and had experienced fourteen severe fits. The head being sufficiently low, and the parts dilated, I applied the forceps, and delivered with great care, but the child was dead. She had only one slight fit after delivery, and no bad effect followed the use of the forceps.

Case XCI.—On the 16th February, 1839, Mr. Tucker, of Berners Street,

called me to see a case of puerperal convulsions. It was the first child, and no relief followed blood-letting and the other remedies. The head was within reach of the forceps, and I applied and locked the blades without difficulty; but by no force which I could justifiably exert would the head advance, and I was compelled to have recourse to craniotomy.

Case XCII.—16th December, 1828, I was called to deliver a woman, residing in Curier Street, St. Giles's, who had been in strong labour upwards of 48 hours. The head of the child was jammed in the brim of the pelvis, and the pains had nearly gone off. Pulse 120. Great restlessness and delirium. The vagina hot, swollen, and tender. Discharge very offensive. Abdomen tense and painful. Retention of urine. To satisfy my own mind, I endeavoured to apply the forceps, but the attempt to pass the blades produced so much pain that I was forced to desist, and open the head. An hour and a half elapsed before I could succeed in extracting the head with the crotchet. Hæmorrhage followed the removal of the placenta, but it was arrested by pressure over the fundus uteri, and the application of cold to the external parts, and she recovered.

Mr. George Curtis, of Dorking, was present at the delivery. The size of the child was much greater than usual.

Case XCIII.—On the 15th August, 1837, Mr. Jones, of Carlisle Street, Soho Square, requested me to see a case of face presentation, in the St. Anne's Parochial Infirmary. The head of the child had not passed completely into the cavity of the pelvis. The face was greatly swollen, and also the vagina of the mother. The head had long been stationary; and, as the pains were becoming more and more feeble, it was certain the delivery would never be completed without artificial assistance. I applied the blades of the forceps with great difficulty, but found it impossible to lock them. The head was perforated; and the force afterwards required to extract it with the craniotomy forceps was so great, that I regretted having endeavoured to deliver before lessening the volume of the head. The patient did not, however, suffer any permanent injury from the operation.

Case XCIV.—On the 11th August, 1838, I was requested by Mr. Cocke, of Cleveland Street, to see a case of difficult labour, in which he had made an unsuccessful attempt to deliver with the forceps. It was the first child. The labour commenced at 12 o'clock on Wednesday, and had continued till 5 o'clock A.M. of Friday. The forehead was behind the symphysis pubis, and for many hours the head had not advanced; it entirely filled the cavity of the pelvis. Mr. Cocke had applied the blades of the forceps, and locked them with great care; but though he made strong traction cautiously for a considerable time, the head could not be made to advance, and he had recourse to perforation. So great was the difficulty afterwards experienced in extracting the head with the crotchet, that he sent to request my assistance; and I did not succeed without considerable difficulty in delivering with the craniotomy forceps. No mischief, I believe, followed.

Case XCV.—Tuesday morning, the 2d January, 1838, I was called by a medical practitioner to a case of protracted labour in Portland Street. The patient was a young woman who had been in labour with her first child since the Friday evening. The os uteri was fully dilated, and the head so low in the pelvis that the ear could be felt behind the symphysis pubis. The pains had been gradually diminishing in force, and had no effect upon the head. The bladder was filled with urine. After drawing off the urine, I applied the blades of the forceps with ease over the sides of the head, and locked them; but the head could not be moved, although I continued for a considerable period to employ even more force than I considered justifiable in attempting to extract the head. After perforation, so much force was required to draw the head through the pelvis with the craniotomy forceps, that I regretted having attempted to save the child.

The umbilical cord was round the neck; and Mr. —— informed me afterwards, that he had felt the cord before the blades of the forceps were applied, and that there was no pulsation in it.

Case XCVI.—Mrs. W. æt. 30, first pregnancy. Labour commenced at three o'clock on the morning of Sunday, the 10th Nov. 1833. At eight o'clock in

the evening, when the os uteri was considerably dilated, but the pains irregular and ineffective, thirty drops of laudanum were administered, and the same quantity two hours after given.

At 4 A.M. of Monday, the membranes were artificially ruptured, and a drachm of the ergot of rye given in four doses at intervals of twenty minutes. It produced nausea, but had no effect upon the uterine contractions.

In the afternoon of Monday, when I first saw the patient, the head of the chid advanced so little through the brim of the pelvis, that I could with great difficulty touch the ear behind the symphysis pubis. The os uteri was imperfectly dilated, and rigid. The vagina and perineum also rigid. The pains strong and regular. Pulse 80; head clear; urine passed through with difficulty.

V. S. ad ℥xij. An enema and warm fomentations were recommended.

At four o'clock on Tuesday morning, I found the head of the child in the same situation, the os uteri still imperfectly dilated, and the vagina swollen and tender, and the neck of the bladder compressed. The pains had almost entirely gone off. The abdomen was tense and painful. Tongue loaded; urgent thirst. The tone of her voice was completely altered, and her strength was so greatly reduced, that it was evident she could not be delivered without artificial assistance. An attempt was made to apply the forceps, but the second blade could not be introduced, and the head after being perforated was extracted with the crotchet.

The child much exceeded the average size, and this appeared to have been the chief cause of the difficulty experienced in the labour.

No bad consequence followed.

Case XCVII.—On the 21st September, 1836, at 3½ P.M. I was called to the St. Marylebone Infirmary, to deliver a woman, æt. 25, who had been in labour forty-six hours. Since midnight the head had remained stationary. The os uteri was fully dilated. The greater part of the head had passed through the brim of the pelvis, and an ear could be felt behind the symphysis pubis. I applied the forceps to the head without much difficulty, and locked the blades, but though I employed strong extracting force for a considerable time, the head could not be brought forward. I therefore opened it, and employed the craniotomy forceps to extract it. Mr. Bishop was present.

On the following day this patient was free from pain and every unfavourable symptom, and recovered rapidly.

Case XCVIII.—4th Feb. 1829, I was called by a medical practitioner to a patient who had been in labour two days and two nights. It was her second labour, the os uteri was only half dilated, and the head, swollen and firmly compressed by the brim of the pelvis, was so high up that the ear could not be reached with the finger. The vagina dry and swollen. The pains continued, but had no effect upon the head. Mr. —— had attempted to apply the forceps, but he could not get the blades over the head.

After perforating, the head could not be extracted with the crotchet till its point was passed up and fixed on the outside, near the angle of the jaw. A great part of the bones of the cranium had been torn away before this was done. Slight uterine inflammation followed.

This woman had been delivered once before by craniotomy.

Case XCIX.—On the 2d August, 1839, Mr. Kennedy, of Tavistock Square, called me to see a patient, 31 years of age, who had been nearly sixty hours in labour with her first child. The head of the child had passed into the cavity of the pelvis, where it was so firmly impacted that it was evident the expulsion of it would never be accomplished by the natural efforts. I ascertained, by auscultation, that the child was alive, and I had no difficulty in applying the blades of Smellie's short forceps, and locking them; but fully half an hour elapsed before I could succeed in extracting the head, and this could not be effected without employing great force, more than I would have employed had I not been certain, from hearing the pulsations of the heart of the fœtus, that it was alive when the operation was commenced. The child shewed no signs of life after delivery, and considerable inflammation and sloughing of the vagina of the mother followed. The bladder and rectum happily escaped uninjured.

It would have been much better practice in this case had I abandoned the attempt to deliver with the forceps,

when I found that the head could not be extracted by moderate traction.

The unwillingness to resort to craniotomy, with a knowledge that the child was alive, led me to commit what I believe to have been a serious error, and which would have been avoided had the condition of the mother only been taken into consideration.

The following case occurred to my friend Dr. Blakeley Brown, of Curzon Street, on the same day:—

Case C.—Elizabeth Nottage, æt. 28, married, 178, Drury Lane. Small and delicate in person; has had four children, and always very quick labours; the last child was born before any one arrived to assist her.

August 1st, at 8 A.M. I was called to attend her. She said the liquor amnii had escaped at 6 that morning, and about three quarters of an hour after the pains first came on, and so severely and strongly that she thought she should have been delivered before I could came.

On my arrival at 8 P.M. the pains had a good deal subsided, and on examination I found the os uteri dilated to about the size of a crown piece, rather low down in the cavity of the pelvis: the liquor amnii escaped in considerable quantity while making the examination.

After waiting an hour, and there being only two or three *very* slight pains, I left her, and returned at 11 A.M. She said she had had two sharp pains since I was gone, but on examination I could detect no alteration. After waiting some time, and there being no return of pain, I left her, with directions to be sent for if the pains came on.

At 11½ P.M. I was sent for, and on my arrival found the pains had returned every quarter of an hour, and they now came on every five minutes, but without forwarding the labour.

At 2 A M. August 2d, the head was resting on the perineum, the pains coming on regularly, but without power to expel the head.

At 7½ A M. the pains were getting weaker; the head was just in the same position, the ear could be felt, and the finger passed round the cavity of the pelvis, which was of ample dimensions.

The patient was now becoming exhausted, and I applied the forceps without any difficulty and extracted the head in a few minutes. The body shortly followed; and immediately afterwards the placenta was expelled.

The child (female) was apparently dead; there was the *slightest* pulsation in the cord. The warm bath and artificial respiration were tried, but without avail; the face and trunk were quite purple, and meconium passed in large quantity.

The uterus contracted well, and the patient recovered without any bad symptom.

[To be continued.]

CLINICAL OBSERVATIONS
ON
THE USE OF THE AIR-DOUCHE IN THE DIAGNOSIS AND TREATMENT
OF
DISEASES OF THE EAR.

By T. Wharton Jones, Esq.

[*For the London Medical Gazette.*]

No. VI.

It is to be remarked, that, as we cannot always tell beforehand how far successful the injection of ethereal vapours into the tympanum may prove, their employment at first can be looked upon only as experimental. The following is an example of such experimental treatment:—

Case IX.—*Experimental treatment by ethereal vapours sent into the tympanic cavity.*

Friday, March 22d, 1839.—Mr. Q. R., aged 28, has been deaf for ten or twelve years; can hear the watch only when it is applied close to his ears; has noises in the ears; auditory passages bedewed with wax; membranæ tympani somewhat opaque.

Introduced a catheter into the right Eustachian tube. Found the guttural orifice contracted, and the lips of it as if glued together, requiring some little manipulation to make an entrance for the beak of the catheter.

The stream of air did not at first enter; it afterwards penetrated in small quantity, and by and by pretty freely, with a whistling and gurgling sound.

The left nostril is so contracted from an injury formerly received, that the smallest catheter cannot be passed.

Prognosis.—I pronounced an extremely doubtful prognosis; but as the person was very desirous to have something done, I agreed to give the ethereal vapours a week or fortnight's trial.

Saturday, 23d.—Hearing in the same state. Right ear treated both by the air-douche and the ethereal vapours.

Monday, 25th.—Hearing in the same state. Right side again treated, the left nostril not admitting the catheter.

Tuesday, 26th.—Hears the watch, though it does not touch the ear, on the left side. On the right side hears the watch at a more decided distance from the ear.

Wednesday, 27th.—Right ear, a quarter of an inch; left ear, an inch and a half. Noises in the ear much abated; they occur now only occasionally. Right ear again treated.

Thursday, 28th.—Hearing distance of right ear perhaps rather more than yesterday; left ear, two inches. Right ear again treated.

Saturday, 30th.—Right ear, two inches and a half; left ear, four inches. A stream of air enters the right Eustachian tube pretty freely. Right ear again treated with the ethereal vapours.

Monday, April 1st.—Right ear, three inches; left ear, four inches and a half. Right ear again treated.

Tuesday, 2d.—Right ear, five inches; left ear, seven inches. Right ear again treated.

Wednesday, 3d.—Both ears, nine inches. Still some buzzing in the right ear.

Thursday, 4th.—Has had a good deal of buzzing in the right ear, and thinks he did not hear conversation so well yesterday as he has been doing since the commencement of the treatment. Right ear, seven inches; left ear, eight inches. Right ear again treated.

Saturday, 6th.—Hearing the same as at last report. Buzzing in the ears only now and then. None yesterday. Right ear again treated.

Remarks.—A thing worthy of notice in this case is improvement of the left ear, though untreated, keeping pace with or even outstripping that of the right, which was treated.

The improvement was much greater than I anticipated, and was such as would fully have warranted a perseverance in the treatment.

When the ethereal vapours prove beneficial, as in the case just related, I know of no other indication for the continuance of the treatment than that already mentioned in regard to the air-douche, viz. in the absence of any counter-indication, perseverance until, I will not say hearing be restored to the natural standard, but until improvement stops. I have, however, met with a case in which the right ear, which at first heard the watch at the distance only of five inches, came, in the course of a fortnight's treatment, to hear it at about two feet, and the left ear rose from three inches to about one foot nine inches; but after that improvement stopped, notwithstanding the treatment was persevered in; the hearing gradually fell back to its former state, without any perceptible symptoms, good or bad.

In carrying on the treatment by ethereal vapours there is one essential point to be attended to, and that is to go on regularly day after day, or at least every second day. The treatment carried on at irregular intervals, proving here as unsatisfactory as the irregular treatment of a case of chronic ophthalmia.

In communication No. IV. I ask, in regard to the proximate cause of the deafness in cases No. V. VI. and VII. "Was it owing to thickening or other change in the texture of the membrane lining the tympanic cavities, and consequently of the membranes closing the fenestræ? Or was it owing to some change in the labyrinth in general? Or to some affection of the auditory nerves in particular?

"It would be of the greatest importance if these questions could be satisfactorily answered, because the state of the ears under consideration appears to be more or less that of a large proportion of habitually deaf persons, and because we should then be more likely to ascertain the signs diagnostical of its commencement, and thus be able to adopt early and perhaps efficient treatment on general principles. An inflammatory origin is scarcely to be doubted. This subject will be farther considered in another communication."

The following case illustrates in some degree the question here proposed:—

Case X.—*Recent inflammation and tumefaction of the mucous lining of the Eustachian tube and cavity of the tympanum of left side.*

Friday, 29th March, 1839.—Mr. S. T. aged about thirty, complains of uneasiness in the left ear, with noises, and dulness of hearing. Feels that air cannot be forced into the tympanum by

attempting to expire with the nose and mouth closed. Has lately had a cold in the head.

On the left side the external auditory passage is healthy, as also the membrana tympani, except that it is perhaps not so transparent as natural.

On the right side the external auditory passage is also healthy, but the upper part of the membrana tympani is gone, so that the whole chain of ossicles traversing the cavity of the tympanum is visible. In front and behind the handle of the malleus the hollow of the tympanic cavity is seen. The ossicles are of a yellowish white colour, and there appears to be no inflammation.

Mr. T. remembers many years ago having some affection of the right ear.

Mr. T.'s father and grandfather have suffered from affections of the ear and deafness.

As an exploratory measure, introduced a catheter into the left Eustachian tube, (which caused some uneasiness from the tenderness of the nasal passages), and applied the air-douche: the air did not enter freely; now and then only a small quantity entered with a shrill whistling sound.

Diagnosis.—I infer inflammation and tumefaction of the mucous lining of the Eustachian tube and cavity of the tympanum.

Thursday, 11th April.—Hardness of hearing increases. Noises in the ear. A tendency to, but not actual pain. The right ear is also somewhat affected. The mucous membrane of the throat spongy. Cannot force air into the left tympanum.

Again explored the left Eustachian tube by means of the air-douche, and found it quite impervious.

To apply leeches to the nostrils.

Saturday, 20th.—Hearing distance of left side, four inches; of right side, eleven inches.

Has applied about five leeches to the nostrils, but without benefit.

Does not feel pain in the ears, but a fulness, and when he stoops a beating of the carotids. The noises do not exist in the right ear; throat somewhat more inflamed and painful on swallowing the saliva, but not in swallowing a bolus of food.

To be let blood to ʒxij. Leeches to the throat. Calomel and James' powder at bed-time, and an aperient next morning.

Tuesday, 23d.—The pain and fulness in the ear gone, and the buzzing diminished.

Tuesday, 7th May.—Has been confined to the house, and since stirring about again as usual, the noises in the left ear, which had ceased, have again become perceptible.

Hearing distance on both sides the same as on Saturday, April 20. Throat better.

Applied the air-douche to the left ear. Felt on introducing the catheter some contraction of the guttural orifice of the Eustachian tube. The air entered pretty freely, with gurgling. Hearing rather diminished immediately after.

Saturday, 11th. — Left ear three inches. After having ascertained the perviousness of the Eustachian tube by the air-douche, ethereal vapours were sent into the tympanum. Hearing rather diminished immediately after the treatment. General health indifferent of late.

Monday, June 24th.—Has been in the country since last report, and is now much better in health. The hearing of the left ear is also very much improved.

Remarks.—Inflammation and tumefaction of the mucous membrane of the Eustachian tube, left side, was in this case evident, and it is not to be doubted but that the lining membrane of the cavity of the tympanum was similarly affected, whatever other part of the ear may have been involved. After the Eustachian tube had become pervious by the subsidence of the inflammation and tumefaction, the case, as far as regards the left ear, resembled in all respects one of nervous deafness as commonly described, even to its being hereditary. "There is no doubt," says Kramer (Die Erkenntniss und Heilung der Ohrenkrankheiten, p. 41), "that diseases of the ear are hereditable: in many families, several or even all the members labour under a greater or less degree of dulness of hearing, *especially with the nervous character.*" In the case under consideration there were sufficient indications of inflammation in parts not at all connected with the auditory nerves, to show it was not nervous deafness merely, if there was any nervous deafness at all; besides the deafness under which the father of this patient laboured appeared to be owing to organic changes from previous inflammation in the ears. The subject of Case II. might be said

to have laboured under hereditary deafness, but which was evidently not nervous. In addition to the grandfather, whose case has been already noticed, I have had the sister also of the subject of Case II. under my care for an inflammatory affection of the middle ears and membranæ tympani. I may say in almost all the cases of hereditary deafness I have met with, the proximate cause of the disease, so far as it could be ascertained, was more or less organic change of the middle ear and membrana tympani, in consequence of previous inflammation. Hence, instead of the idea very commonly attached to the expression "hereditary deafness," viz. that it is owing to a hereditary predisposition of the auditory nerve to fail in its powers, we might adopt the more positive and tangible one, that it is very often the result of inflammation of one or other of the accessory parts of the ear—inflammation, however, to which the parts are hereditarily predisposed.

As to the morbid state of the ears actually existing, in many of the cases of the nature under consideration, we have perhaps an example in what is recorded by Mr. Savage* of the ears of Joseph Hall. "The lining membrane of the tympanum and Eustachian tube showed evident signs that it had been the seat of inflammatory action during life; thus instead of being delicate and transparent, as it is in a healthy state, when its existence as a continuous membrane hardly admits of demonstration, in the right tympanum and Eustachian tube it was red, and half a line in thickness, and in the left upwards of a line† thick, and covered by a tenacious, bloody mucus." * * * * "The lining membrane of the Eustachian tubes was so much thickened and villous, that although a probe could be carried through them without the least difficulty, yet during life this thickening must have been sufficient to oppose the passage of air considerably in the right tube, and to obstruct it entirely in the left." This corresponds in general with what has been found on dissection in other cases.

The lining membrane of the tympanic cavity being fibro-mucous—periosteum and mucous membrane—inflammation of it will vary in its nature and consequences. It may at one time be simply the catarrhal affection of a mucous membrane, at another time the violent purulent otitis interna, in which the surrounding osseous textures become so readily involved. The morbid state of the lining membrane of the middle ear I am attempting to illustrate appears to be rather of an intermediate nature. It is the "phlegmasie sans secretion" of Deleau. The parallel which I have already drawn between the structure and pathology of the derivative lacrymal organs and the middle ear, if cautiously employed, will prove of material assistance in illustrating further this point.

In affections of the external auditory passages, we sometimes see the lining integument at the bottom tumid, and lying over the membrana tympani, in the same manner as the conjunctiva does over the cornea in chemosis. This state accompanies affections of the auditory passages, which prove very intractable, and are productive of considerable deafness. In tumefaction of the lining membrane of the cavity of the tympanum, it cannot fail but that sometimes the membrane of the fenestra rotunda will be overlapped in a similar manner—a condition which would be a very efficient cause of deafness.

As the cases which have been related give a sufficient idea of the details as connected with the use of the air-douche in the diagnosis and treatment of diseases of the ear, and as the number at the head of this article warns me that it is for the sixth week that I encroach on the columns of the MEDICAL GAZETTE,

* London Medical Gazette, July 20th, 1839, No. 43, p. 617.

† It is to be remembered that the old English line is one-twelfth of an English inch, and that the Paris line is one-twelfth of a Paris inch. The Paris inch being somewhat longer than the English inch, the French line is nearly equal to one-tenth of an English inch. It is to be remembered moreover that the cavity of the tympanum measures from without inwards about three-twentieths of an inch. This estimation of the morbid thickness of the lining membrane of the tympanum, therefore, I am inclined to think is somewhat overrated. If not, the cavity of the tympanum on the left side must have been entirely obliterated. I take this opportunity to mention in regard to the theory Mr. Savage has founded on the coldness of the air as it issues from the air-press, that a stream of air *immediately on issuing from the air-press*, directed against the ball of a thermometer, brings the mercury down two or three degrees; but when the *air traverses the whole length of the flexible tube and catheter* before playing on the ball of the thermometer, the mercury has rather a tendency to rise. Hence, at a given temperature of the atmosphere, the air-douche produces in the part of the body against which it is directed, no greater cold than a draught of wind.

I will now conclude this series of contributions, only repeating the request made at the commencement, that they be received as they have been offered, viz. as imperfect observations on a subject, not, indeed, easy of investigation, but by no means incapable of it.

LETTER FROM THE PROFESSOR OF MEDICINE,

CONCERNING THE RECENT APPOINTMENTS AT GLASGOW.

To the Editor of the Medical Gazette.

Sir,

As you have, in a recent number, entered upon the late appointments in the University of Glasgow far too slightly for the gravity of the facts, and the indignation and disgust they have excited amongst all parties, I beg to put you in possession of a slight sketch, for the accuracy of which my name will, I trust, be a sufficient pledge.

When I accepted the office of Professor of Medicine, thirteen years ago, I concluded that my duties would be held to be fulfilled by a six months' course of daily lectures on the practice of physic; for as to that course of instruction which in modern times, and in certain schools, had been comprehended under the name of theory and institutes of medicine (and which, as artificially divided at Edinburgh in my time, had comprised physiology, pathology, and therapeutics), it undoubtedly depended on my own estimate of the nature of my charge to undertake it in a separate course of lectures or not, as I should judge proper. Now I doubted, both from reflection and from experience, of the necessity of such a course. Physiology was the natural and necessary appendage of the professor of anatomy. Into general therapeutics I could not but enter to some extent from my own chair; and as to pathology, as a distinct subject, if it mean the exhibition of morbid structures or results of diseases, I own that I have permitted myself, perhaps, rather an unusual extent of scepticism as to its utility. I distrusted myself the less on the general principle, as I knew that, in the London schools, in which our most accomplished physicians had been formed, a course of lectures on the theory of medicine had never yet been judged expedient. Settled, however, at Glasgow, I was to go by public opinion; or rather, the University was obliged to furnish any line of instruction which, from time to time, the public boards should exact from their candidates. Thus pressed, I was prevailed upon, in the second or third year of my residence, to undertake a separate course of lectures on these subjects—a course which, though only delivered twice a week, was already nearly equivalent to the three months' courses delivered in London on all medical subjects indifferently. In the progress of events, finding the double duty greatly too much for my health, I profited by the assistance of my eldest son, who, for a further period of about two years, employed himself diligently in extending and delivering these lectures. When I lost his services, by his obtaining the Radcliffe Fellowship, I invited Dr. Rainy to take the class off my hands, on the condition of extending the course, which I now began to be pressed about, to the same length as the others delivered in the University; and the entire duty, thus satisfied to the most rigorous extent, has ever since that period been discharged, with the highest credit and applause, by that gentleman.

The position was, undoubtedly, advantageous to Dr. Rainy: it was eminently favourable to the increase of a reputation of which, however, he had already laid the deep foundation among his fellow-citizens; but it was one of very great labour, and it is not to be denied, but rather strongly to be insisted on, that its highest advantage was the security it seemed to afford him (and this increasing, of course, with every adding year) of eventually obtaining the separate chair, if ever it should become one.—*Heu vatum ignaræ mentes.*

What, then, has destroyed the fair and just hopes of Dr. Rainy's ambition? Inquire at Glasgow. Inquire not only in our walls, but at 'Change or market; every where the answer will be the same:—Party, party, party! Ask for what reason the teacher of a class, constantly increasing, and become steadily and uniformly productive—a class recently of 140 pupils—has been dispossessed? A satisfactory answer to this demand can, I should say, only be sup-

plied by two parties: by Lord John Russell, and his political adherent, Mr. Oswald. As to any advantage in these arrangements reserved to myself (a charge now brought forward by the *public virtue* of an ephemeral scribbler as matter of obloquy), it will scarcely be held censurable by any just man, or spoken of in disparagement as a bargain, when it is considered that my interest in my own lectures, as a source of emolument, merged in Dr. Rainy's taking my place; that I had an author's copyright, as it were, in what had been done already; and that, in every arrangement made by the Professors in Glasgow (and every where else) with assistants, such considerations necessarily obtained; and, as I believe, to an extent often far more onerous to the latter than I had exacted, and my colleagues sanctioned. No corrupt bargain this, my Lord John Russell, but an honest protection of one's own intellectual property; nor can I conveniently refer to any passage in the history of my own times, in which men, even in the highest offices, like those held at present by yourself and your distinguished colleagues, have been found to disdain the provision which usually signalizes their retirement. But this is not quite all: Dr. Rainy has been deprived of his position, and I, as well as himself, of its contingent advantages, under quite unprecedented circumstances.

I left Glasgow, in May, a sexagenary invalid—in fact, exceedingly ill, and doubtful of my own recovery. In this condition I wrote to Lord John Russell, requesting leave to resign my chair in favour of my son, Dr. D. Badham. This letter was dated the 27th of May. The reply of the minister lamented my infirmities, and any inconvenience to which I might be submitted; but, on public grounds, he declared his inability to listen to any thing of which the principle was so incompatible with the public good; yet, in six weeks afterwards, the advantage of this public (Lord John Russell's and mine) was found to require the ejection of an approved and esteemed teacher, and the destruction of the results of seven years' toil and perseverance!

I had received Lord John Russell's reply with resignation. I blamed him not; but for what has followed—the dismemberment of my office, without the courtesy of an inquiry how it might affect one—the dismissal of my friend, and the mutilation of my income—I was, indeed, unprepared. Now one of two things: either Lord John Russell, at the date of his reply to my application, did not think it his duty to listen to a sort of recommendation (of a Royal commission) issued some twelve years ago, in regard to the institution of a new Chair; or the process by which he became enlightened was so sudden, that he ought in all reason to have mistrusted it. Precipitation the most undeniable is, I apprehend, the least inculpation to which his Lordship has subjected himself; and even this is a light charge compared with the singularly injurious treatment inflicted on the party who has been set aside; for I challenge the whole force of the whole Radical party, even as it exists in Glasgow (where it is in perfection)—or by whatever other title it more delights to be distinguished—to satisfy the public why Dr. Andrew Buchanan was put in, and why Dr. Harry Rainy was put out. As elements, however, for the discovery of truth, I have to state, that the death of the former member for Glasgow (Lord William Bentinck); the election of Mr. Oswald as its representative (of that Mr. Oswald whose bills against the independence of the University are fresh in memory); my own application to Lord John Russell; his Lordship's answer; and the appointment of the two new professors (who might be said to have come down upon us as from a parachute, had they not been themselves, both of them, at that instant, rivals and candidates for a lectureship on forensic medicine, within the College walls, about to be instituted by ourselves)—are all events that took place within a few summer weeks.—I remain, sir,

Your most obedient servant,

CHARLES BADHAM.

Brighton, August 26, 1839.

P.S.—What could possess a writer in the Lancet, who indites a letter, affronting, as usual with that publication, and meant, of course, to be injurious, to put the editor only in possession (as he declares himself to be) of his "name and address." One marvels that he should not rather have given his communication the credit and consequence of both. His obloquy has but little moved me; nor will I be rash enough to provoke one who is, I dare say, in a fair way of

obtaining a professorship for himself (*sic itur ad astra!*), and eating the epichorial sheep's-head in better society than he apparently enjoys at present; for one is almost tempted to say to such an adversary, if there were a reasonable chance of being understood,

"———— Quis tecum sectile porrum
Sutor, et elixi vervecis labra comedit?"

"Say with what cobbler eat'st thou, nothing loth,
Thy seeth'd sheep's muzzle, and its turbid broth?
What sunless close, apart from human ken,
What wynd, yet unbaptized, conceals thy den;
Where, for Iatric charge pronounced unfit,
Detraction feeds thee, who had'st starv'd on wit;
Who, having cast thy scruples all away,
Drain'st in too frequent drams an hireling's pay?"

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(*As delivered in his Lectures at Sydenham College School of Medicine.*)

[Continued from page 855.]

II.—INJURIES OF THE CHEST.

The most important of the various effects of these injuries.—1. *On blood-streaked sputa; their absence in some very severe injuries; at other times produced by mere contusion; not therefore a sure indication of different degrees or kinds.*—2. *Want of vitality, proneness to excessive suppurative and sloughing action; tendency also to excessive action of skin.*—3. *Permanent tendency to engorgement and inflammation of lung.*—4. *Possibility of great pleuritic mischief affording but little indication of its existence; occasional inefficiency of bleeding.*

The general features and the simpler forms of these injuries were considered in the last lecture. The more complicated forms, and individual symptoms and effects, which often stand forward as the leading feature of a case, giving a distinguishing character, and essentially modifying the treatment proper to such cases, both merit and require description, from their practical importance.

1. Bloody sputa, even in the worst forms of injury, do not always occur at first; their absence, therefore, must not be taken as a proof of the slight nature of the injury. The contrary to this must also be borne in mind, viz. that a mere contusion, which shall not, with proper treatment, be followed by any serious after consequences, will give, as a first indication, pain of the chest, difficulty of breathing, and expectoration of blood. The following abstract of a case furnishes proof of the first proposition; it further shows all the worst effects, unattended by many of the worst symptoms, of these injuries.

—— West, æt. 29, March 16th, 1836, was admitted; a bullet having entered about an inch below the right clavicle at the centre, and passing directly through the first rib backwards, emerged behind the right shoulder. He had not expectorated any blood; pulse was weak and hurried.

Bled to ℥xvj., and an opiate administered.

Symptoms and progress of case.—Accelerated circulation from time to time, pulse gaining a wiry character; no expectoration of blood; pain generally referred to the lower portion of the right lung. Difficulty of breathing, occasionally relieved by the expulsion from the wounds of large quantities of fœtid matter; restless; much troubled with a short cough; *râle muqueux* over both lungs; difficulty of swallowing, referred to the chest; skin hot; tongue dryish. Died on the tenth day.

Treatment. — Sixty-eight ounces of blood extracted in the first eight days, lowering the pulse and alleviating the symptoms. Tincture of digitalis in doses of twenty minims. Opiate the first and two last nights.

On 7th day, Emp. Lyttæ to abdomen, to alleviate pain.

Post-mortem.—The ball passed immediately through the first rib, comminuting it, and driving a portion of cartilage, and several portions of bone and a piece of jacket, into the apex of the superior lobe of the right lung. In passing out, it fractured second rib and injured the scapula. The left lung perfectly healthy, with the exception of some slight adhesions: these considerable over the surface of the right lung. A considerable quantity of fœtid matter in the thoracic cavity. The whole of the right lung was considerably gorged with blood, and in a slight degree hepatized, but in other respects not diseased. The pleura costalis and pulmonalis were both immensely thickened and granulated; the pleura pulmonalis from a line to

a line and a half in thickness, (as you may observe in this preparation). The liver was enlarged, florid in colour, slightly gorged, but otherwise healthy. The other viscera healthy.

This case furnishes many features worthy of note besides the principal one for which it is quoted, viz. the absence of hæmorrhagic sputa in so severe an injury: the difficulty of swallowing, referred to the chest, seems to have arisen from the pressure of fluid on the œsophagus. The pain was referred to the engorged and not to the injured part of the lung, accompanied by a pain of abdomen, which must be considered as a sympathetic pain. The *râle muqueux* seemed not confined to the part where suppuration existed, but to be spread over the whole chest. The excessive formation of fœtid matter and spontaneous relief by its ejection, also deserve attention.

2. A general feature of these cases is the want of vitality, all parts speedily ulcerating or sloughing, and the copious and unusually abundant discharge, with the great and general debility resulting from such long continued and extensive suppurative action. The following case is well marked, but I am sorry that the notes of the post-mortem have been mislaid.

William Ford was struck by a cannister-shot under the acromial end of the clavicle on the right great pectoral muscle, near the anterior edge of the deltoid; the wound appeared superficial, with uneven edges, running towards the summit of the shoulder; complained during the first few days of headache, attended with febrile symptoms.

10th day.—Suppuration was established, and already considerable.

13th.—Suppuration more profuse; slight bleeding from the surface of the wound: a swelling of an œdematous character somewhat suddenly appeared in the left thigh and leg, extending from the upper third of the thigh to the ankle, rendering the limb double its natural size. Pulse slow; patient feverish; thirst; bowels costive.

18th.—Wound of a dull red colour; granulations dark and sluggish; deltoid puffed up, from fluid extending over the shoulder down the course of the infraspinatus and latissimus dorsi. On sitting upright, an enormous quantity of matter was pressed out from the wound by the action of the muscles; the back appears inclined to slough over a great part of its extent; countenance sunk; eyes bright; pulse slow and feeble; breathing agitated, hurried, but not oppressed; pain in the lower part of left side; cough frequent; leg and thigh still swollen, excessively painful when moved; no such sensibility about the wound; fluctuation and a crackling feel about and above the knee-joint; sound over the chest rather dull; immense fœtid discharge; slept well last night; skin cool; bowels open; bandage to limb.

19th.—Appeared worse; swelling of thigh much diminished; tow and tepid water to the back. The 20th, a marked change took place in the character of the discharge; it became dark and grumous: perspirations. Evident signs of great debility and the supervention of hectic. The right side of the chest gave a dull sound.

23d.—Hippocratic countenance; a quantity of blood issuing from the wound; extremities cold. He suddenly roused; screamed with a pain in the right side, which continued for some minutes; after which he lapsed into the same exhausted state as before, lingered for an hour, and expired. The left side much larger than the right.

The slowness of pulse was remarkable from the commencement; an inability to any healthy inflammatory action, shown by the speedy supervention of the suppurative to an extraordinary degree, and subsequently sloughing, sufficiently marked a loss of that vitality which is capable of resisting such processes. The rapid diminution of the swelling of the limb, on the day succeeding the application of the bandage, seemed to indicate either a communication with some distant sac or cavity, or a remarkable absorption, such as we observe in a metastasis. The laborious breathing in the commencement gradually diminishing towards the end, and the sudden pain of the right side, and enlargement of the left, lead to the belief that a large quantity of matter had suddenly made its way into the thoracic cavity.

Not less peculiar and evident, in a great number of cases, is the great and often uncontrollable tendency to excessive action of skin, and continued restlessness of a febrile state.

3. In all severe cases, and occasionally even in slighter ones, there remains,

after the wounds are entirely healed, as a permanent consequence, a proneness to engorgement and inflammation, rendering any active exertion dangerous or impossible, and resembling much the effect I have pointed out as almost invariably observable in the brain after concussion.

Case of probably penetrating wound, with recovery, leaving a permanent tendency to engorgement and inflammation.

Thomas Dean, æt. 25, a blacksmith, always healthy; short, fair, of sanguine temperament.

Oct. 1st, 1836, received a gun-shot wound: the ball, entering the chest at the anterior portion of the fourth rib of right side, passed outwards and downwards, having carried in a portion of belt and cloth, and emerged about two inches below the base of the scapula of the same side.

1st day.—Great difficulty of breathing; blood-stained expectoration; much hæmorrhage from wound in the back; bled to ʒxviij. on first arrival; further relieved by hæmorrhage; pulse after both full and bounding; patient of plethoric and robust habit. Evening, the pulse was weak and slow; a tickling cough attended, with little pain in chest.

2d.—Had passed a tolerably good night; no pain, save on coughing, which is followed by expectoration of blood. Pulse rose, and became full and strong.

V.S. ad ʒxx. Digitalis, ɱxv. ter die.

3d.—Favourable night; free from pain, except, as before, on coughing; expectoration of blood continues; pulse rising.

V.S. ad ʒxvj.

From this period, with occasional recurrence of pain, and disposition to febrile action, he went on favourably to end of third month, when cured.

In March 1838, I found him incapable of great exertion; and if he took cold, or any active exercise, he was subject to an attack of pain in the wounded side.

This is also illustrative of the good effects of prompt and free depletion, which, in the case before us, evidently and effectually kept the inflammatory action, to which there was a great tendency, in check.

4. It may constantly be observed, in reference to these injuries of the thorax, that considerable pleuritic mischief may exist, with trifling disturbance to pulse and breathing, and that even fatal wounds do not always give immediate signs. Of these important facts abundant proof is furnished by the following cases. In the case of West, already given, there was no expectoration of blood.

Case of injury to spine and thorax; symptoms chiefly referring to spine, and not to chest.

George Cusack, wounded August 1, 1836, by a ball which penetrated the thorax, near the heads of the ninth and tenth ribs, one of which it fractured. On the introduction of the finger, the lung was felt acting against it. Died the 11th day: symptoms during the whole period chiefly of spinal injury.

On 2d day some difficulty of breathing complained of.

On the 3d day, delirium; great febril action; profuse perspiration on the face; body hot and dry; pulse rapid and rather hard, 120; respiration 48 in the minute.

4th day. — Temporary retention of urine; pain of right shoulder, near the lower angle of scapula; pulse 96, soft; respiration natural.

5th. — Pain of right side of chest, round the wound, increased on full respiration; no cough or spitting of blood, and respiration pretty tranquil; pulse 80, soft, and of good character; tongue furred.

6th.—Very little pain when he lies quiet; respiration tranquil, but he cannot take a full inspiration; so on to the 11th day. Breathing on the 7th day noted as neither laborious nor hurried, and the patient free from cough. He was carried off by tetanus.

I have already referred to this case in speaking of injuries of the spine, the ball having lodged in one of the dorsal vertebra, and refer now, therefore, to the points in connection with the chest injury. There was a wound of the diaphragm; abrasion of liver and kidney; no opening could be detected in the lung, although air had been forcibly expelled. The lung on the right side was found adhering firmly to the ribs, with the exception of a portion opposite the wound, where the pleura being free, a cavity existed, containing a considera-

ble quantity of yellow-coloured turbid serum. The pleura much diseased, and thickened. On inflating the lung, air was found to escape in the direction of the wound.

Case of gun-shot wound penetrating the thorax and lung.—Fractured rib anteriorly and posteriorly, and scapula, and injury of subclavian vein.

Michael Mahoney, wounded May 16th, 1837. A musket-shot entered the left breast immediately under the clavicle, fracturing anteriorly the second rib, and in the same direction penetrated the superior lobe of the left lung, penetrating again the pleura costalis behind, and fracturing the same rib a second time, near its spinal attachment; after which, making its way through the scapula, it fractured the body of that bone, and lodged under the integuments at its inferior angle. On the 19th the ball was extracted, and at this period the effects of the wound on the constitution assumed no serious character; so much so, that, without examination, any injury of the pleuritic cavity could not have been anticipated. On the 21st, the breathing became more laborious, and symptoms of pleurisy appeared. He was bled to Oij. with considerable relief; the bowels were freely opened, and the symptoms continued favourable until the 24th, when a profuse hæmorrhage occurred from the anterior wound. On removing the clot, which in a great measure filled the wound, the blood appeared to be of a venous character. Cold water was applied to the shoulder and chest, and all hæmorrhage ceased. The subclavian artery could be felt distinctly pulsating at the bottom of the wound, on introducing the finger. On the morning of the 26th, considerable hæmorrhage occurred, perhaps a pound. The subclavian artery, by the officer in charge, was tied external to the scalenus anticus muscle. The hæmorrhage did not again occur. A few hours after he complained of pain in the arm, and it was considerably colder than the other; it was then rolled in flannel. He gradually sunk, and died twelve hours after the operation.

Post-mortem. — Dissection shewed the course of the ball, as already described, and the ulceration—almost obliteration—of the subclavian vein; also, inflammation of the coats of the artery at the same point.

Here we find, that although the cavity was penetrated, and the lung wounded, yet no chest symptoms for nineteen days indicated the serious mischief done. Although not bearing on the present subject, I cannot omit pointing out that the ligature of the artery was uncalled for; and even had that been the vessel ulcerated, no good result could be hoped from its ligature when the vein was implicated; mortification was naturally to be expected, and there is little doubt would have taken place had the patient lived. It is necessary to bear in mind always, that whereas in the upper extremity the collateral circulation may generally be depended upon for carrying on the life of the limb, even when suddenly called upon by a wound or ligature of the principal trunk, yet if the capillaries, already taxed to the utmost, have further to contend against venous congestion, they become unequal to the increased effort; and therefore, when the vein is implicated with injury to the trunk of an artery, sphacelus almost inevitably results.

Sergeant Wolfe; fracture of sternum and lesion of left lung; died, 8th day.

Ball penetrated the sternum; drove in three splinters on the lungs, and lodged in the substance of upper lobe of left lung, two inches from the surface. It was found at the mouth of the wound after death, probably protruded by action of lungs. Left lung collapsed and healthy, except for two inches, which was inflamed around the wound. Chest full of bloody serum and clots of blood (coagulated); effusion of serum into pericardium greater then natural; all other viscera natural.

1st day.—Pulse, aspect, and functions, regular; no chest symptoms; ball supposed to have glanced off.

11 at night.—Pulse quick and full; face flushed.

V.S. ℥xxx.

2d.—Great pain of chest; countenance anxious; pulse quick and full; inspiration painful.

C.C. V.S. ℥xvj.

3d.—Symptoms much improved; less pain of chest; less cough; countenance improved; not much pain in the wound; pulse strong and full.

V.S. ad ℥xvj.

4th.—Pulse quick and sharp; pain in

back; cough; hurried respiration; restless; hot skin.

5th.—Pulse quick and small; shivering fits, accompanied with cold perspiration, and returning every two hours, have come on. During the night orderly officer called, for hæmorrhage, which was florid and mixed with air and mucus, from wound; his face purple; relieved on being bled to syncope.

6th.—Pulse again quick and full.

V.S. ℥xxxvj.

In the evening cold and shivering; then delirium.

7th.—Tongue dry; encrusted with brown; delirious; small pulse.

8th.—Died.

In this case it may be remarked, that the symptoms did not immediately supervene, that there was an intermediate day's relief; the rigors on the 5th day preceding a violent hæmorrhage; arrested by venesection producing syncope. The purple face, cold perspirations, and delirium, ushering in death, are all worthy of note, and render the case a good instance of the irregularity of the manifestations in these injuries.

In some cases already detailed to you, good evidence has been furnished of the importance and value of early and free depletion. In many instances, however, even this active and energetic mode of treatment utterly fails in controlling or arresting the disastrous effects which follow each other in rapid succession, until death concludes the case.

Case of severe injury, on the progress of which large depletions seemed to exercise no influence.

Henry Calvert, wounded October 1st, 1836, by a musket-ball, which entered near the external inferior edge of scapula, passing across and inwards, fracturing the eighth rib, and entering the chest. Emphysema speedily supervened around the wound; hæmoptoe; lips purple; pulse quick; respiration painful, oppressed, short, and accelerated, with a sense of impending suffocation.

V.S. ad ℥xx.

2d.—Bad night; great oppression of chest; disposition to cough, without being able to do so; pulse full and strong.

V.S. ad ℥xxv.

3d.—Same symptoms; bowels constipated.

4th.—Still difficult respiration; *râle muqueux*; pulse quick and hard; bowels unmoved.

V.S. ad ℥xvj. Mixture, with digitalis, ♏xx. pro dosi. Active enema administered.

5th.—Suffers much from difficulty of breathing; pulse 120, hard and bounding; of full habit of body, to which, in some degree, may be attributed the severity and unyielding nature of the symptoms; skin hot.

V.S. ad ℥xvj.

6th.—Worse; pulse sharp and frequent.

V.S. ad ℥xvj.

7th.—*Râle métallique* and *bruit de soufflet;* respiration inaudible in lower portion of left lung; pulsation of right auricle and ventricle stronger than left, and louder in a marked degree. Died in the afternoon.

Post-mortem.—The ball had entered between the seventh and eighth ribs of right side, towards their posterior third. The right lung was wounded, collapsed, and hepatized in its upper portion; the lower was gorged with blood. The cavity of the pleura contained nearly two pints of bloody serum. Heart and abdominal viscera healthy.

Here we see, although the treatment commenced very shortly after the injury was inflicted, and that more than seven pints of blood were abstracted in six days, aided by full doses of digitalis and active purgatives, with starvation, no impression whatever seemed made upon the disease or its progress.

[To be continued.]

RESEARCHES IN EMBRYOLOGY.

MR. JONES'S REJOINDER TO DR. BARRY.

To the Editor of the Medical Gazette.

Sir,

Dr. Barry's pertinacity in the attempt to fix upon me a charge of disingenuousness and want of candour towards Professors Valentin and Wagner, is the only reason that induces me to notice his communication of last week.

He says, after mentioning the date of publication of the observations on the

ova of the Mammifera, by the above-mentioned gentlemen, "Yet T. Wharton Jones claims the priority of discovery of both vesicle and spot—a claim which the dates above stated satisfactorily refute." This is a pure invention on the part of Dr. Barry. I am not aware that any thing I ever wroté or said can be construed into such a meaning; and I do not perceive that you, Mr. Editor, in the remarks reprinted in the last number but one of the MEDICAL GAZETTE, advanced any claim of priority in my behalf.

It is a very different thing to claim having made an observation independently and about the same time that a similar observation was made in another country, from claiming priority of discovery. Therefore, whilst I never disputed the claims of Valentin and Wagner, and fully admit the correctness of Dr. Barry's dates, viz. that Valentin and Bernhardt's memoir was published in Germany in October 1834, and that Wagner's observation regarding the germinal spot was announced in Müller's Archiv for 1835, but, with a note, by the Editor, saying, that the paper had been received in 1834;—whilst, I say, I fully admit all this, it does not the less remain a *fact*, that I, without any knowledge of M. Coste's observations, did, independently, and by the mere dint of my own study and dissection of the mammiferous ovum under the microscope, discover both the germinal vesicle and the spot on its side in the beginning of September 1834.

From the dates above mentioned, then, it appears that my observations were made one month before Valentin and Bernhardt's memoir was published. In regard to Wagner I am more nearly equal with him, as, though his observations were made in 1834, they were not published till 1835. Mine, also, though made in 1834, were not formally published till 1835.

I here beg to anticipate an objection which Dr. Barry will most likely at once start, and that is, "What proof is there that T. Wharton Jones made his observations in September 1834?" The best way I can meet this is to give the following short history. It was in Glasgow, in the house of Dr. Mackenzie, my observations were made, and they were communicated and demonstrated to Dr. Mackenzie, Dr. Rainy and others, at the time. A month or two after, meeting Dr. Allen Thomson*, in Glasgow, I mentioned the circumstance to him, and being in Edinburgh in the beginning of February 1835, I demonstrated the vesicle and spot to Dr. Sharpey, then Lecturer on Anatomy in Edinburgh, now Professor in London University College. As to the memoir which was read before the Royal Society in June 1835, it was sent out of my hands in February 1835. Before passing out of my hands it was seen by Dr. Sharpey, and after passing out of my hands it went successively through those of Dr. Mackenzie, Dr. Rainy, and Professor Burns of Glasgow; by the latter it was transmitted to Dr. Lee of London, who communicated it to the Royal Society. The memoir was afterwards referred to Mr. Owen. I have no doubt if Dr. Barry is anxious for any farther information, he will receive it on application to the gentlemen named. Mr. Owen will be able to explain, if he have not already explained, to Dr. Barry the reason why the memoir was not published in the Philosophical Transactions; and whether or not, at the time it was read, it was considered wholly destitute of novelty. I have no doubt also but that Mr. Owen will inform Dr. B., if he have not already informed him, that he, Mr. O., has seen me demonstrate the vesicle, and the spot on its side, and that in a way more likely perhaps to show the vesicle as it really is than by the process of crushing.

The facts now stated show that I have no need to seek to disallow the just claims of others in order to uphold my own. And I believe, Mr. Editor, Dr. Barry will not now be bold enough to question what you have already stated, viz. that the germinal vesicle, and the spot on its side, were discovered quite independently in this country and on the continent about the same time.

But this is not the main point in dispute, as Dr. Barry would have it appear. This is merely an episode: the main point in dispute, I beg it to be remembered, is contained in my communication of the 20th of July, the object of which was to disprove the assertion, that the study of embryology is "one to which the attention of physiologists in this country has scarcely begun to be

* I would here beg Dr. Barry to refer to Dr. Allen Thomson's article, "Generation," in the Cyclopædia of Anatomy and Physiology, Part xiii. Feb. 1838, p. 452.

directed," and to expose the unfounded nature of the "pretensions to novelty, originality, and correctness, which Dr. Barry has introduced into both series of his 'Researches.'"

With many apologies for the encroachment on your valuable columns to which this controversy has given rise, I remain, sir,

Your obedient servant,

T. Wharton Jones.

36, George Street, Hanover Square,
Sept. 2, 1839.

FUNCTIONS OF THE GREAT SYMPATHETIC.

To the Editor of the Medical Gazette.

Sir,

I would not for a moment be supposed to impugn the accuracy of Mr. Wells's experiment; but what I must still be allowed to contend for is this, that no positive inference can be drawn from this solitary case (involving as it does so many remote contingencies), to warrant an universal application. It appears to be founded upon the *non causâ pro causâ* species of reasoning, the fallacy of which is apparent. Mr. Wells says, "my object is to show that some substances exert their poisonous action through the agency of the nervous (ganglionic) system alone, and that the cerebro-spinal system has but little influence over this action. *If* this be so, the inference is obvious even without any direct experiment: they must act through the medium of the ganglionic system. And should my experiments be verified by such a course as that recommended by Dr. Christison, no fact in physiology could be better established."

Mr. Wells will excuse me when I say that this at the outset savours a little of what logicians would call an hypothetical syllogism, the consequent being admitted before the antecedent has been proved. One of the suggestions which appears to militate against his present position is this, that in almost all the experiments which have been recorded, the ganglionic system has been observed to be the *last* affected, for on opening the thorax immediately after death—the death of the sentient system—the heart was found pulsating, and all the motions resulting from ganglionic stimulus were proceeding with the utmost regularity; and the supposition certainly appears, to say the least of it, a little anomalous, that the system which conveys the peculiar effect of a powerful agent is itself only indirectly susceptible of its impression. In Mr. Wells's future experiments he should be particularly careful to observe, when death has been induced by a *primary* or exclusive action upon the sympathetic nerves, whether or not the functions proper to this system are capable of being maintained for any length of time after the sensitive life has been destroyed; if not, the alternative pointed out by the old doctrine will still come to our rescue.

In the meanwhile any fact is valuable which tends to throw a light into the darkness which surrounds us; and if Mr. Wells should find his opinion unequivocally confirmed by further observation, he will have the not unenviable satisfaction of knowing that he is right, and that Müller, Brodie, Magendie, Emmert, Coullon, Krimer, and a host of other distinguished physiologists, are *wrong*.

I trust to be able shortly to publish, in a condensed form, some practical observations on the nature and treatment of certain sympathetic local affections, which I think I have satisfactorily traced to their source—ganglionic irritation.

I have the honour to remain, sir,

Your most obedient servant,

R. H. Allnatt.

August 30th, 1839.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'Alembert.

Cure of Club Foot, Bent Knee, Wry Neck, Spinal, and other Deformities. With Remarks on the late Progress of Art, and on the necessity of a public Institution for the Relief of the Poor labouring under deformities. By Gustav Krauss, M. D. &c. With Cases and Wood-cuts. London, 1839. 8vo. pp. 42.

This little essay is sensible and judicious, and though chiefly intended for the general reader, will also be advantageously consulted by the surgical student. The following extract will show

that the author has attempted to designate the varieties of club-foot by some new terms; it is possible that although they may not be generally adopted, they may still be of service, by fixing the attention of the learner on the species of this deformity.

"1st. The *Tip-foot* (Horse-foot, *Spitzfuss, pes equinus.*) When the sufferer walks on his toes, and the heel is drawn upward. In this class may be included the *knot-foot, (pied-bot en dessous,)* where the patient walks upon the back of the foot.

"2d. The *Cross-foot* (Club-foot inward, *Querfuss, varus.)* When the sufferer walks on the outward edge of the foot, or the outward part of the dorsum, the point of the foot being turned inwards.

"3rd. The *Outbow-foot* (Club-foot outward, *Schrägfuss, valgus.)* The sufferer treads upon the inward part of the foot; the point of the foot, and sometimes the heel, are turned outward.

"4th. The *Heel-club-foot (Fersen Klumpfuss, talipes calcaneus.*) The patient walks upon the heel.

Sparks from the Wheel of a Man wot grinds;—a Light on the Pharmacopœia. London: J. Butler, 18mo. pp. 82.

This little 18mo. belongs to a class of books respecting which we can seldom speak in terms of praise. It is professedly designed for those students (by courtesy so called), "who work more to pass than to learn; who fear an edifice hard by Bridge Street, and dread the approach of Thursday nights." Much, indeed, is it to be deprecated that there should be individuals who enjoy the cognomen of "medical students," and are about as well suited for the profession as was the popinjay, who pestered Hotspur, qualified for fighting. As long, however, as there are such personages, so long (on the principle of demand creating supply) will there be no lack of primers and "readings made easy," adapted for their use and capacity. There is this novel feature in the work before us, that the subjects are treated of in a humorous and facetious style, wherever there is an opening for mirth, with the design of riveting the attention and impressing the memory of the student. The most important of the pharmacopœial preparations are selected, and their composition and decomposition explained in a lucid manner. The author appears well qualified for his task, and is, we have no doubt, from the brilliancy of his scintillations, a *grinder* of the first order.

MEDICAL GAZETTE.

Saturday, September 7, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

CURIOUS MEDICAL LAW-SUIT.

It has sometimes been doubted whether *Forensic Medicine* or *Medical Jurisprudence* is the fitter title for the science where law and medicine meet. The former is now generally preferred, and is certainly best suited to the majority of topics discussed; to those parts of medicine, namely, which are made the subjects of discussion in courts of justice. On the other hand, when the social relations of our profession are to be settled by law, medical jurisprudence seems the apter phrase, as it signifies the application of law to medicine, while the more modern name rather means the converse.

The peculiar genius of the continental nations has led them to attempt to fix by law many of those rights and duties of the medical profession which are here left undecided; yet still more remain unsettled, and are left to the decision of courts or magistrates, according to the spirit rather than the letter of their codes.

The Court of Cassation, at Paris, has just decided this new and important question—"Can a physician agree to give his medical services, for life, in return for a perpetual annuity, or a sum of money paid down?"

It appears that by a verbal contract, on the 22d of February, 1833, Dr. Mojon, formerly *médecin en chef* in the army, and Professor of the Faculty at

Genoa, agreed to perform the duties of physician during his whole life, for the Baroness de Feuchères and her household, as long as she resided in France. The Baroness, in return, agreed to give M. Mojon, his wife, their children, and their descendants in a direct line, an annuity of 10,000 francs (400*l.*); terminable at her option by paying down 200,000 francs (8000*l.*)

In consequence, Professor Mojon and his family established themselves at Paris, and the agreement was executed until October 1837. At this period, the Baroness having broken off with M. Mojon without any plausible reasons, he cited her to appear before the Tribunal of the First Instance, in order to obtain the execution of the contract; and she was adjudged to pay him either the annuity, or the two hundred thousand francs. She appealed to the *Cour Royale*, which, on the 22d of April, 1838, confirmed the judgment of the court below. She then appealed to the Court of Cassation, but with no better success, being still saddled with the painful choice of annuity or capital; besides having to pay the costs of three law-suits, which must be no joke, even in France, where law, we believe, is not quite so expensive a luxury as in this country.

The Baroness de Feuchères maintained that the agreement was contrary to the articles 1131, 1133, and 1780, of the Civil Code, which declare that it is not permitted to make a contract by which one loses one's independence and liberty. She did not complain of losing her own independence, but charitably suggested that the doctor lost his by so stringent a bond. On the other hand, the Attorney-General, who appeared for Professor Mojon, denied that a contract of the kind destroyed the independence of the physician, as he was still able to exercise his profession, and manage his private affairs. The agreement, he asserted, was neither contrary to public order nor sound morality; nor was it against the law; for the article 1780, which prohibits a perpetual engagement, is applicable only to servants and workmen, and cannot be made to comprehend so liberal and noble a profession as the art of healing. The patient who is attended by a doctor of medicine cannot be called his master, and does not stand in that relation to him.

We must confess that if a life-contract between master and workman is void by the Civil Code, on account of its destroying the independence of the latter, the agreement between the Baroness and Professor Mojon would seem to be of a voidable kind. This would be still more evident, if the objection had been made on the part of the physician instead of the patient; but if the bond bears the true slavish stamp discountenanced by the law, it is well to annul it, even if the objection comes from the wrong side. An agreement like that of Professor Mojon certainly entails the loss of independence for life; especially, if he was compelled to follow the Baroness in her journeys through France. Suppose she chose to live one month at Paris, a second at Marseilles, and a third at Strasburgh, what would become of the Professor's private practice, or his family affairs? Perhaps there was an understanding that she generally lived at Paris, and would not frequently require his services elsewhere; otherwise even 10,000 francs a year for an indefinite period would have been an insufficient remuneration for one of Dr. Mojon's rank in the profession. It is possible, indeed, that the courts, when severally deciding against the Baroness, may have been influenced rather by the spirit than the letter of the code. They may have thought that the contracts which the law intends to annul are not those by which independence is destroyed in the finer sense of the term,

but those by which the poor might be seduced into selling their fairest birthright—liberty—for food and raiment. In every European country so many wretched beings are constantly living on the brink of famine, that unless the law interposed its humane prohibition, there would be great danger of the revival of serfage, if the indigent were allowed to sell their very life for drachmas.

We do not know what the English law says to these bargains, but we should hope that it repudiates them: yet the candid must allow that some approximations to slavery take place even in England. The friendless children, for instance, who are drafted from our workhouses into the service of needy householders, are in a state which has not many of the attributes of freedom. The contracts made for them by the parish authorities are seldom advantageous, and the threefold choice of toiling for a painfully inadequate reward, of returning to the workhouse, (and that perhaps a union bastile!) or of starving, might seem to leave the serf but little to envy. After all, however, the state of the parish child, though a reproach to civilization, *is* better than that of the serf chained to the soil; for while the *adscriptus glebæ* is exposed to still harder usage unrebuked by law or custom, and has scarcely a hope of advancement, the alumnus of Marylebone or St. Pancras may appeal to boards and magistrates, and may rise to anything that he is fit for. Now, it appears from the decision of the Court of Cassation, that the French law, though jealous of the liberty of every citizen, and utterly disallowing serfage under any disguise, has no apprehensions for the freedom of family physicians, and looks without alarm on the life-long services of Dr. Mojon, and the perpetual annuity which rewards them. Although a physician may become the slave of fashion, or the slave of theory, the French law does not fear that he will be made the slave of his patient. Yet among the ancients this was so common, that a scholar of the last century wrote an essay, *De servili medicorum apud antiquos conditione.* In stating the fact so broadly he fell into an exaggeration, with the intention, we believe, of vexing Dr. Somebody, his acquaintance.

Every human being must be satisfied with the defeat of Madame de Feuchères, and yet every one must see the imprudence of a bargain of this sort, by which the patient may be compelled to fee a physician for half a century, who has outlived her liking in a month. The *Gazette Médicale* has just been informed, that on the 24th of August the Baroness sent a tipstaff to summon M. Mojon to attend her professionally!

If forensic medicine is the science where law and medicine touch, this encounter of doctor and patient, after three law-suits, may be truly called a medico-forensic meeting. The handsomest and most sensible thing the lady could do on such a visit, would be to pay the Professor the large fee of 200,000 francs imagined in the contract, and restore him to the freedom concerning which she was so anxious.

STATE OF THE POOR OF GLASGOW.

It is now about six months since we reviewed Dr. Cowan's Essay on the Vital Statistics of Glasgow, and gave an abstract showing the increase of disease and mortality in that great city*. After mentioning some of the methods by which the state of Glasgow might be improved—such as building hospitals, forming drains, and teaching the poor to clean and whitewash their houses—we added, "the evils are so enormous that one might imagine there

* Medical Gazette, March 2, 1839.

must be a slowness to subscribe in the good town of Glasgow."

This conjecture is unfortunately confirmed by the "Fourth Annual Report of the Glasgow University Lying-in Hospital and Dispensary," which has just reached us. In a town where fever and small-pox multiply their ravages, until the number attacked by the former disease in 1837 is estimated by Dr. Cowan at 21,800; where the constant influx of Irish indigence adds to the number of those whom disease finds helpless and destitute; in a town, finally, where commerce enriches not few and far between, but hundreds and thousands; we should have imagined that an institution like that whose Report is before us would have been fostered by the warmest patronage, and that merchant and manufacturer would have hastened to alleviate those ills of which they were in some measure the cause. Instead of this, the subscriptions and donations for the year 1838 amounted to £86. 15*s*. 3*d*.; and even this ridiculously minute sum was greater than the preceding year. Adding fifteen guineas from the College of Glasgow, ten pounds from the City, the fees of students, amounting to £44. 8*s*., and two other small items, the whole income was £165. 14*s*. 3*d*. One might be inclined at first to suppose that this lamentable deficiency of subscriptions arose from the institution being destitute of distinguished patrons, and that it had usurped the title of "University," though in reality only the obscure Charity of a few second-rate traders. The fact is, nevertheless, that among the office-bearers we find the Lord Provost, the Sheriff of the County, the Principal of the University, the Rev. Dr. Brown from the Clergy, and the Dean of Guild. How with this scanty sum the Directors contrived to treat 125 cases in the hospital, and 297 at home, besides 1837 Dispensary patients, is really a difficult problem; but we fear that the line which separates economy from parsimony must often have been overpassed.

The Report gives a melancholy picture of the state of the poor of Glasgow. The streets in which they live are ill paved and badly lighted; many, indeed, being wholly without lamps. These dwellings are often "quite ruinous, unfit for lodging human beings, and such as would be condemned by any board of inspectors." The authors of the Report suggest the establishment of a board of this kind, and also of a building society, to supply the poor with better rooms at more moderate rents. Both these suggestions are worthy of attention; but while the former could not be carried into effect without an Act of Parliament, the latter might be realized by any association of philanthropists, or, indeed, by a single one. Spirit drinking is making frightful advances among the lower classes of both sexes. The Reporters advise that Temperance Societies should open small shops where the poor might obtain hot broth, tea, coffee, chocolate, &c. for a trifle; they also wish for an increase of the duty on malt* and spirits, and the punishment of drunkenness; and they justly suppose that the want of amusements is an exciting cause of intemperance. Unfortunately, the passion of the day is too exclusively a dry utilitarianism, and innocent entertainments for the common people are neglected, or scouted. The Reporters do not mention the establishment of public baths at a low rate, though this is one of the most crying wants in every part of these islands. The Report is sensible as well as benevolent; but we acknowledge that the amazing tenuity of the hospital and dispensary income disheartens us, and makes us apprehend that if Glasgow is to be much improved, it must be by assessment rather than subscription.

* We do not agree with them on this point, as we have no wish to add to the price of beer.

ENGLISH PRACTITIONERS AT WIESBADEN.

In our number of August 17th, we observed that if the English at Wiesbaden would but manifest their natural predilection for British practitioners with sufficient firmness, the government of Nassau would allow them to practise, in spite of the letter of the law. This prediction has been fulfilled, as appears by the following letter in the *Times* of September 5th.

To the Editor of the Times.

Sir,—An anonymous letter appeared in your paper some days ago, extracted from Galignani's Messenger, which stated that Dr. Downie and myself were prevented from practising during the season among our countrymen in Wiesbaden. It may, therefore, interest some of your readers to know, that one of the last official acts of the late lamented Duke was the removal of the restrictions against English medical men, as will appear in the following answer to an address presented to his Serene Highness from a numerous meeting of English residents and visitors, Sir David Cunynghame, Bart., in the chair :—

Your obedient servant,
EDWIN LEE.

"Colonel Sir David Cunynghame, Bart, and the other English gentlemen who signed the address sent to his Serene Highness the Duke of Nassau, declaiming against the police regulations forbidding two English medical gentlemen to practise medicine, are hereby informed that his Serene Highness has been pleased to order, that although it is by the police regulations forbidden foreign medical persons to practise without being previously examined, the said gentlemen and all other English residents and visitors shall not in future be prevented from placing themselves under the care and availing themselves of the professional assistance of medical persons from their own country.

"Wiesbaden, Aug. 19th, 1839.

"Government office.
"By order of the Minister of State."

UNIVERSITY OF GLASGOW.

REGULATIONS REGARDING DEGREES IN MEDICINE AND SURGERY, AGREED ON 29TH APRIL, 1839.

Medicine.

1. EVERY Candidate for a Medical Degree must lodge, with the Clerk of Senate, a Certificate of moral character, by two respectable persons, with evidence that he has already attained the age of twenty one.

2. He must produce evidence of having attended, for four years, some University where medicine is regularly taught, or the medical lectures delivered in London or Dublin. In each year he must have attended, at least, two courses of lectures six months' duration (except in the cases hereinafter specified), and one year of the four, must be spent at the University of Glasgow. If one year only, then attendance must have been given on, at least, three courses of lectures delivered there, two of them being of six months' duration.

3. He must produce certificates of having attended one or more courses of lectures on the following subjects; each course, with the exception of Forensic Medicine and Botany, being of six months' duration: if of less extent, then two courses will be deemed equivalent to one of six months.

Anatomy and Physiology.
Chemistry.
The Theory or Institutes of Medicine.
Practice of Medicine,
Materia Medica and Pharmacy.
Midwifery.
Surgery.
Forensic Medicine, not less than three months.
Botany not less than three months.
Anatomical Dissections, six months.
A General Hospital, two years,—

said hospital containing eighty beds at least, and in which the student must spend at least one half of the period of his attendance in the physicians' wards.

Neither hospital attendance, nor anatomical dissections, shall be considered as equivalent to a course of lectures.

4. Each candidate for a medical degree must announce his intention, and lodge with the clerk of Senate the above testimonials, together with an English essay on some medical subject chosen by himself, two months before the time of graduation; that is, on or before the 1st of March or the 10th of June, yearly, otherwise he cannot be admitted for examination till the following term. All tickets of attendance lodged by candidates shall be certified, not excepting those of the current session; but the certified botanical tickets of the current session shall not be received until the 1st of April. No student shall be entered in any medical class later than the 1st of December, without the special permission of the Senate.

And it shall be strictly required of every candidate for graduation, that he produce evidence of his name having been enrolled in the Library Book on or before

that day, with an express certificate of his regular attendance, by each professor on whose lectures he attends.

Note.—In order, further, to insure attendance, all students of medicine must inscribe their names, once a fortnight, in a register kept for the purpose, stating the lectures, &c., which they attend.

5. Every candidate shall undergo full examinations on all the subjects included in the curriculum, and shall further, give satisfactory evidence that he possesses a competent knowledge of the Latin language.

Surgery.

1. The regulations respecting certificates of age and moral character, are the same as those under the head of Degrees in Medicine.

2. Candidates for the degree of Master of Surgery shall produce evidence that they have attended medical lectures in one or other of the Universities or Schools already specified, for four years, during which they must have attended one or more courses on the following subjects; the extent of each course, with the exception of Forensic Medicine, being six months, or the equivalent two courses of a shorter duration. The candidate must have attended not less than three courses of medical lectures in the University of Glasgow. In each year of his study he shall have attended, at least, two or more courses of lectures of six months duration.

Anatomy.
Surgery.
Chemistry.
Theory or Institutes of Medicine.
Practice of Medicine.
Midwifery.
Materia Medica and Pharmacy.
Forensic Medicine.
Anatomical Dissections, six months.
A General Hospital two years,—

in which the student must attend one-half of the prescribed period in the surgical wards, and the other half in the medical.

3. The regulations as to lodging certificates of attendance, with an essay, in English, and as to the candidate's knowledge of Latin, are the same as under the head Medical Degrees, only the essay is to be on a surgical subject.

The days of graduation are the last Wednesday of April, and the first Wednesday of August.

The fee to Library, &c. for the degree of M.D. is.....	£15	0	0
The duty on stamp for ditto ..	10	3	0
	25	3	0
The fee for the degree of Chirurgiæ Magister is	10	10	0

N. B.—These regulations are applicable to all candidates for degrees, who enter the University of Glasgow for the first time, in the session 1839-40, although they may have commenced their medical studies earlier elsewhere. But those who have attended medical classes there previous to that session, are to be admitted to examination, according to the regulations which existed at the time when they began to study medicine. The former regulation, requiring the study of Botany to have been prosecuted in a University, is still applicable to those candidates who had commenced their medical studies previous to 1839.

EQUIVOCAL GENERATION.

Schultze and Schwann have examined some of the phenomena of equivocal generation. The former filled a glass vessel with distilled water containing various organic substances, and closed it with a cork, through which two bent glass tubes were passed; the water was then boiled, and while the vapour was rising in the tubes, a Liebig's apparatus was attached to each; that of one containing some concentrated sulphuric acid, and that of the other some concentrated solution of potash. The air could thus be easily renewed, but whatever germs there were in it would be destroyed by having to pass through the concentrated acid. The whole apparatus was then placed at a brightly lighted window, and by its side an open vessel containing an infusion of the same organic substances: infusoria were generated in the latter, but in the former not a trace of them could be discovered.

The result of Schwann's experiments is the following:—

If a closed glass sphere, filled with atmospheric air, and containing besides a small quantity of infusion of muscular tissue, be exposed to the boiling heat of water, after several months there will be observed neither the formation of infusoria, nor any putrefaction. And it will be just the same though the air be renewed, if that air which is introduced be previously exposed to a high temperature.—*Müller's Archiv Jahresbericht*, clxxvi.

[These experiments seem to settle this long disputed question. They are the first in which every possible entrance for living ova dispersed in the atmosphere has been closed, and in a case of this kind it is evident that a single negative result is worth many positive.]

VARICOSE CAPILLARIES.

To the Editor of the Medical Gazette.

SIR,

IN the leading article of the MEDICAL GAZETTE of last week, you remark that an observer not previously acquainted with the varicose condition of the capillaries, could not at once have distinguished it in Mr. Kiernan's preparation of intestine, nor in the diseased ducts of the rabbit's liver.

In reference to this remark, I beg to say, that so obvious is the peculiar condition of the capillaries in question, that he who runs may *see*. Mr. Kiernan did me the favour to show me the preparation under the microscope, at a time when I was not at all prepared for any morbid state of the capillaries, and before I had been made acquainted with the recent attempt to wrest from him the merit of his discovery. I can only say, that I had not been one minute looking at the preparation through the microscope, when I exclaimed, "Why, here are varicose capillaries!"

But the term "varicose" does not, in my mind, adequately express the real condition of the capillaries in this preparation. These vessels possess other characters equally obvious, and not less interesting in a physiological point of view; upon these, I presume, Mr. Kiernan did not dilate, otherwise the public would have, ere this, been made acquainted with his description through the same channel by which their varicose condition was so hastily made known. It is to be hoped that now Mr. Kiernan will be allowed to describe the whole of his valuable observations for himself; the scientific public have sufficient guarantee that no hasty observations, nor crude generalizations, will be put forth by the anatomist, who unravelled with the most complete success the minute structure of the most complicated gland in the body.

I am, sir,
Your obedient servant,
R. B. TODD.

26, Parliament Street,
Sept. 4, 1839.

BOOKS RECEIVED FOR REVIEW.

The Vegetable Cultivator: containing a Plain and Accurate Description of all the different Species and Varieties of Culinary Vegetables, &c. By John Rogers, Author of "The Fruit Cultivator." London, 1839. Small 8vo. pp. 343.

Prize Thesis.—Inaugural Dissertation on the Physiological Inferences to be deduced from the Structure of the Nervous System of the Invertebrated Classes of Animals, &c. By Wm. B. Carpenter, &c. Candidate for the degree of Doctor in Medicine. Edinburgh and London, 1839. 8vo. pp. 83, with 2 Plates.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 29, 1839.

John Bateman Wilson, Whitehaven, Cumberland.—John Stearn Gissing, Woodbridge, Suffolk.—Albert Napper, Godalming, Surrey.—John Tosswill Veitch, Exeter, Devon.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Sept.* 3, 1839.

Age and Debility	29	Hooping Cough	2
Apoplexy	5	Inflammation	12
Asthma	2	Bowels & Stomach	6
Cancer	2	Brain	2
Consumption	36	Lungs and Pleura	2
Convulsions	28	Influenza	3
Croup	1	Insanity	1
Dentition	6	Liver, diseased	1
Diarrhœa	1	Measles	17
Dropsy	11	Mortification	3
Dropsy in the Brain	8	Rheumatism	1
Erysipelas	1	Small-pox	4
Fever	11	Thrush	3
Fever, Scarlet	10	Unknown Causes	103
Fever, Typhus	6		
Hæmorrhage	2	Casualties	13
Heart, diseased	1		

Increase of Burials, as compared with the preceding week . . . 67

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

August.	THERMOMETER.		BAROMETER.	
Thursday . 22	from 37	to 63	30·10	to 30·13
Friday . . 23	54	68	30·14	30·15
Saturday . 24	51	71	30 07	29·98
Sunday . . 25	58	72	29·93	29·90
Monday . . 26	49	73	29·87	29·83
Tuesday . . 27	50	64	29·72	29·76
Wednesday 28	45	64	29·95	29·97

Prevailing wind, S.W.

Except the morning of the 23d, afternoon and evening of the 27th, generally clear; rain fell on the 27th,

Rain fallen, ·075 of an inch.

CHARLES HENRY ADAMS.

NOTICES.

We have received the communications of Dr. Bigsby, Dr. Robert Hunter, and "A Lover of Truth."

"A Young Chemist," wishes to know where he can find a description of M. Thilorier's apparatus for freezing carbonic acid; perhaps some of our readers can inform him.

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 14, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Gonorrhœa virulenta.—Perhaps it may be supposed that the consideration of this disease does not properly come within the scope contemplated in these lectures. The effects, however, are sometimes so serious, and urinary affections can be so frequently traced to gonorrhœa as one of their remote or exciting causes, that the nature and effects of this affection are not so wholly irrelevant as to render it an illegitimate object for special consideration.

Gonorrhœa may be defined a specific inflammation of the lining membrane of the urethra in the male, and of the vagina in the female, attended with a specific infectious purulent discharge. The ancients, though erroneously, supposed gonorrhœa to be only a preternatural discharge of semen, whence its name*. It mostly arises from impure connection, and hence it is necessary to define it a *specific* inflammation, with *specific* discharge of an *infectious* nature. By an infectious discharge is to be understood a discharge possessing the properties of exciting, in a susceptible surface, a disease precisely similar to that of which itself is the offspring, or forms an essential part. Inflammation may be excited in the urethra or vagina by various irritations, and purulent discharges may be the result; but such inflammations and purulent discharges want the specific character and the infectious properties which distinguish gonorrhœa.

The first symptoms of gonorrhœa generally appear within the first four days after impure connection. In very susceptible persons it will frequently appear within the first twelve hours; but when the susceptibility is very obtuse, a week, a fortnight, or three weeks, or even more, may elapse before the symptoms develop themselves. It also commences variously: in some a mere sensation of heat, or slight smarting, on making water, and which continues for a period varying from a few seconds to several minutes, ushers in the disease. In others there is a sensation of itching more than of smarting, and the first urine comes out in a gush, for in consequence of slight agglutination of the urethra, the urine cannot flow immediately, as when the passage is pervious; hence the patient feels that the urine is at first slightly impeded, the penis swells, and at last the agglutination gives way, and the urine gushes forth. The first effect is irritation of the lining membrane, in consequence of which it not only secretes mucus more abundantly, but this mucus becomes slightly deranged in its properties. The patient's attention, probably, is first attracted by observing that the linen presents the appearance of small spots, stained as if with the white of egg; but no fluid of this kind can be forced out from the urethra, but the urethra is found glued together at or near its orifice by a glutinous exudation of this sort. When these symptoms have continued for a time, longer or shorter, according to circumstances, the whole body of the penis becomes swollen, and puts on a highly inflamed and irritable appearance. The discharge, which had at first the appearance of a whitish glutinous matter, and secreted in but small quantity, now has be-

* Γονη, *semen*; ρεω, *fluo*.

come copious, of a yellowish green purulent appearance, and, indeed, possessing all the characters of true pus, and which you may observe exemplified in this instance. In some the discharge is scanty and thin, and then assumes less of a purulent character, although equally virulent in its nature. In others, again, the pus is thick, yellow, and discharged in very large quantity.

During the disease, especially if the inflammatory symptoms run high, in irritable habits a degree of sympathetic fever prevails proportioned to the intensity of the irritability and the activity of the inflammation. But in almost all cases there is some degree of constitutional disturbance, even though it do not amount to what may be strictly termed fever: such are, frequency of pulse, always with some degree of hardness, slight elevation of temperature, dry skin, and tendency to thirst.

The symptomatic fever is often associated with local derangements in other parts. Thus we sometimes see inflammation of the absorbents of the penis, inflammation and swelling of the inguinal glands, giving rise to what is named sympathetic bubo, and the testicle very often becomes swelled and inflamed as in hernia humoralis. In many instances ulterior and much severer consequences ensue, and various other important organs become involved: thus the irritation and inflammation may spread to the prostate, bladder, ureters, and even the kidneys. When the inflammation in the urethra is very severe, and spreads to the continuous parts, those in contiguity become affected: hence we may have tenesmus, with various other affections of the rectum.

When the kidneys become involved various affections of the back and spine take place, according to the peculiar predispositions of the patient. One consequence of the state of the urethra is a thickening of the lining membrane, and consequently a corresponding diminution in the stream of the urine, owing to the partial obliteration, or rather reduction of the size, of the passage. This thickening of the mucous lining often not only becomes permanent, but increasing, ultimately lays the foundation of future organic stricture. The stream of urine is sometimes twisted, forked, or split into two, as in organic stricture. In some cases the bladder becomes so extremely irritable that the patient is harassed with an incessant and irresistible desire of passing the urine. Hence he is called upon almost every five minutes, yet but a spoonful or two of urine is voided, which produces the most intolerable pain.

Chordee.—This is another very frequent and extremely painful consequence of gonorrhœa. It arises from the deposition of coagulable lymph in the cells of the corpora cavernosa of the penis, which being consequently distended, when erection takes place the corpus spongiosum does not receive a corresponding distension, and hence a curvature of the penis, with a most intense pain, ensues. The primary and essential morbid action, it is said, is confined to the extremity of the urethra, from its orifice to the distance of an inch backwards; and the discharge proceeds from the lacunæ in the mucous lining*.

In females the discharge takes place from the vagina, nymphæ, &c. In them the symptoms are much less intense and much milder, but in many cases the urethra becomes affected, and then the symptoms are much more severe. But much will depend upon the peculiar habit and irritability of constitution of the individual.

Causes.—The exciting cause of gonorrhœa is impure contact; at least in the greatest majority of instances. That this is, however, invariably the case, would be a very unphilosophical assumption, as it would involve the impossibility of generation, and consequently that gonorrhœa must have been coeval with the origin of the human race. This is too great an absurdity to be entertained even for a moment. The circumstances, however, which operate effectually in the generation of gonorrhœa have not been thoroughly investigated, and are not therefore perfectly understood. A mere inflammatory action of the lining membrane of the urethra, even attended with a purulent discharge, is not sufficient for the production of the disease; there is something peculiar or specific in the nature of the inflammation, by which a peculiar virus, possessed of specific properties, is generated. It would be a very useful investigation to determine the circumstances which originate gonorrhœa: it is very probable that it has its origin with the female sex, and that a promiscuous intercourse is one of the essential, and perhaps one of the most effectual causes, which operate in engendering gonorrhœa.

Diagnosis.—It perhaps may appear superfluous to discuss a subject such as this head embraces; but I would remind you of the too ready admission of every sore about the genital organs being venereal, and the very baneful and destructive practice to which, some years since, it

* This includes the period from admission into the hospital to discharge and return to duty. The average period before the disappearance of all symptoms of gonorrhœa, were from about four to six days, but two or three days were allowed to establish more securely the convalescence.

gave rise. Every little sore, every herpetic eruption appearing on the glans, or about the prepuce, were formerly pronounced venereal, and in many the constitution ruined by the poisonous agency of mercury. Upon these occasions, too, the influence of the mineral upon the supposed diseases for the cure of which it was administered, were hardly ever taken into account, but each particular form had its quantum of mercury determined by weight, and so many ounces were required for a chancre; so many more for a bubo; and so many for the individual forms of secondary symptoms. Many indeed have had reason to lament these theories, and many have they brought to a premature end. There are many eruptions which attack the genitals of both male and female, and which closely resemble the primary forms of syphilis, but which really have no other analogy or alliance with this disease than the mere resemblance. Mistakes, however, in this case, are not so serious in relation to the system as those we have just been considering; but still a correct diagnosis is often matter of great moment, as involving family considerations of great importance, and which are very often referred to the practitioner for his consideration; and his judgment decides the question. It should therefore be recollected that females even the most pure and virtuous are subject not only to an increase of the mucous secretion of the vagina and parts in the neighbourhood, but that the secretion itself becomes altered in its properties, and acquires morbid qualities. Leucorrhœa is a very common disorder in females, and in many cases the discharge assumes a completely purulent appearance. Sometimes this is accompanied with great irritation of the urinary passages, and the general and individual symptoms sometimes so closely resemble those of gonorrhœa, that they can hardly, if at all, be distinguished. It is necessary therefore, in such cases, involving the character, and perhaps the future respectability and happiness of the parties, to be extremely cautious in your conduct, and guarded in your opinions.

But there are cases of still greater difficulty, and that in some of the diseases of the above character attacking females; the secretion becomes not only diseased in appearance, but absolutely acquires acrid or irritating properties, from which, in married women, the husband suffers, and very serious and injurious suspicions are excited. I have seen several instances of this sort, and, indeed, they are often very difficult to deal with. In those which I have seen, there was no purulent discharge from the urethra in the male, although there was a smarting on making water, and sometimes a slight mucous discharge staining the linen, described as occurring at the very commencement of gonorrhœa. In gonorrhœa there is often a sort of acrimonious secretion from the lining of the prepuce and glans, and in some it looks like white detached patches; but I have seen no such appearance in the spurious or pseudo gonorrhœa. In true gonorrhœa the discharge invariably ultimately becomes purulent. If, therefore, the inflammation run high, and all the other phenomena of gonorrhœa attend, and that the history and general circumstances of the case involve no doubtful circumstances, then we can have little hesitation in deciding or pronouncing an opinion. But if the circumstances be mysterious, and involve questions of serious family moment, for myself I would rather err upon the safe side. Should it afterwards turn out that you were wrong, your mistake will be attributed to a good feeling, and will not lower you in the estimation of either party.

Treatment.—Two modes of treatment have been adopted for the cure of gonorrhœa—the antiphlogistic, and the stimulant and astringent. The first, unless of late, has not been very extensively practised; and what has been termed the antiphlogistic, in activity falls very far short of that which the term comprehends in relation to other acute inflammatory diseases. Bleeding has not been very generally practised or recommended in gonorrhœa; and yet I do not see why, in inflammation liable to involve the most important of the urinary organs, we should not bleed as boldly as in similar inflammations, occupying other and perhaps less important parts. One of the first means, then, which present to us is venesection, proportioned and repeated according to the intensity of the symptoms, and the violence and extent of the inflammatory action. With venesection we may employ leeches to the perineum, or along the body of the penis underneath, more especially in the neighbourhood of those parts of the urethra which evince most sensibility on passing the urine, or on slight compression. Still further to moderate inflammation and allay fever, a relaxed state of system is necessary. Many for this purpose prefer the saline purgatives; but if the inflammation be very severe, and that the irritation in the urinary system be very great, the salines will to a certain extent aggravate the distress. In such cases castor oil, or some other purgative, as infusion of senna, which do not

excite the urinary apparatus, will be preferable, till the violence of the inflammatory action has been reduced.

We know that, in the highly sensitive state of the urethra, a stimulant which, in its ordinary condition, produces no sensible effect, will now produce almost intolerable pain, and a degree of suffering almost beyond endurance: hence the urine of its usual acrimony and natural saline impregnation, produces such intense pain, and sometimes lasting for a long time, by which all inflammatory symptoms are much aggravated. We must therefore endeavour to render the urine as mild as possible. Nothing contributes more to this object than dilution. The saline and consequently the stimulating principles are, if not absolutely, at least relatively reduced, and persons in the most severe forms of gonorrhœa will pass diluted urine of specific gravity 1001 to 1005, with ease, who could not pass it of specific gravity 1010 without excruciating pain. The choice of the diluent, provided it be mild and bland, is an object of less moment, perhaps, than it would at first sight appear. Pure water, that is, without any saline impregnation, is the most effectual diluent, for the virtues of all essentially depend upon the proportion of watery fluid. But as, perhaps, it would be difficult to persuade many persons to swallow the quantity required to prove beneficial, it is usual to medicate it in some way or other. Thus boiled water in which toasted bread has been soaked, or in which linseed has been infused, or acacia dissolved, will be taken to the requisite extent, when mere water would be refused. The practitioner, of course, when he finds his patient refractory, will solicit him by varying the medication, and substituting barley-water, milk, and such like, when the patient cloys of the others.

While we thus endeavour to diminish the acrimony of the urine by plentiful dilution, we must also attempt to reduce the irritability of the urinary organs. This is best done by sedatives, as muriate of morphia, hyoscyamus, or hydrocyanic acid. When morphia agrees, it is the most effectual sedative. The sedative may be given in solution, as in the almond emulsion, which, perhaps, is the pleasantest vehicle. The narcotic should be given in sufficient doses, and until it produce the required effect. At this period, also, especially after the requisite depletion, I have found colchicum act as a urinary sedative, and, indeed, produce the most beneficial effects*.

If we find that, notwithstanding our endeavours to promote and dilute the secretion of urine, our attempts fail, we may then give some mild diuretic, such as juniper with nitric ether*, which will usually have the effect without over-stimulating.

It has been already observed that the irritation of the urethra and bladder is often extended to the rectum, producing a troublesome tenesmus, and various other kinds of uneasiness. In such cases anodyne and emollient enemas†, with the warm bath, give the most effectual relief. To reduce the heat, swelling, and external inflammation of the penis, it should be enveloped in a single rag of linen kept constantly moist and cool by means of a solution of acetate of lead in which a lump of ice may be kept constantly floating.

From very extensive trials, I can pronounce the above the most effectual as well as the safest mode of treatment. Under it I have known the discharge entirely cease without any of the severe consequences which frequently supervene on the stimulant and astringent treatment. If, however, the discharge should not cease, or that any thing like gleet succeed, which, however, hardly ever happens except in those who have suffered severely from repeated attacks of gonorrhœa, then we may give the copaiba with nitrous ether. If, after all, the discharge prove obstinate, we may have recourse to the means next detailed.

Stimulating and astringent treatment.—The next mode is that which may be named the stimulating and astringent. It consists in administering urinary stimulants internally, and astringent injections externally. Perhaps there are but few, who, if the inflammatory symptoms ran high, would adopt this plan immediately at the beginning. Still I have known some who maintain that these stimulants not only arrest the discharge, but completely subdue the inflammatory action. That anomalies of this description may occasionally occur in physic, as in all other circum-

* I have found the acetic extract of colchicum, given with the compound powder of ipecacuanha, or hydrochlorate of morphia and ipecacuanha, as mentioned in a former lecture, in the form of pill, a very effectual preparation.

* R. Infus. Junip. dr. x.; Spir. ejusdem C. dr. j.; Tinct. Opii, min. x. M. ft. haustus bis terve in die sumendus, ad urinam promovendam.

The infusion of pareira, or of buchu, with some of the extract of pareira, may be added occasionally with advantage to any of these.

† R. Decoct. Amyli, oz. x.—xij.; Tinct. Opii, dr. j.; Ext. Hyoscyami, gr. x. Misce intime ut fiat enema tepidum intra rectum injiciendum.

stances, no one can deny; but that they form the rule instead of the exception, is a conclusion no way warranted, but on the contrary directly at variance with the facts.

The first treatment consists in clearing out the bowels, by sulphate of magnesia in sufficient doses. Some give the sulphate in two or three drachm doses, adding to each dose a few grains of nitrate of potass. Some select balsam of copaiba, immediately after; and give it very often in nauseous doses, even to excite vomiting. Camphor mixture and nitrous ether render it more agreeable to the stomach. But the most celebrated of these remedies are the berries of the piper cubeba, or cubebs, as it is more commonly called. Of this, very large doses, two or three drachms for instance, or even more, of the powdered berries, are given two, three, or four times a day. The powder is given in water and in milk, which, according to some, is the best vehicle. Such is the reputation of cubebs for curing gonorrhœa, that many when attacked with this affection take cubebs in very large doses upon their own sole responsibility. The effects are said to be the immediate, almost the instantaneous cure of the disease. But such should be reminded that the suppression of the discharge is not the radical cure of the disease. I have seen many who have seriously injured their health, not only through the means often necessary to relieve the excitement thus induced, but the irritation often lays the foundation of severe urinary affections, to break out at some future, though perhaps remote period.

The external local means consist in the injection of stimulating or astringent solutions into the urethra in the male, and the vagina in the female. The metallic salts are usually selected for this purpose, and those in most repute are the sulphate and acetate of zinc, acetate of lead, sulphate of copper, and nitrate of silver. The strength varies from one to three grains to the ounce, and distilled water should always be chosen for their solution. If an injection be required at all, I myself should prefer either the acetate of zinc or the nitrate of silver. The acetate of zinc is readily formed, by decomposing sulphate of zinc by acetate of lead, in the proportions of about 30 parts of the former to 47 of the latter. These, if previously dissolved separately in the requisite quantity of distilled water, and filtered* will give us a solution at once fit for use. With respect to the solutions of sulphate of copper, and the acetates of lead, I must confess that I should never use them except as last resources, after the failure of all other methods; and I must confess I should not be very sanguine in my expectations as to their beneficial effects. The most effectual, the least irritating, and in general the most innocent of all the metallic injections in my judgment is the nitrate of silver, and where I found an injection necessary, I should decidedly give the preference to this. From one to two grains of this salt dissolved in an ounce or ounce and a half of distilled water will form a very suitable injection. From two drachms to half an ounce, the latter quantity, perhaps, more suited for women, should be injected into the urethra or vagina, two, three, or four times a day. It is also recommended to prevent the injection passing beyond the neck of the glans, (which is the limit of the disease,) by compressing the penis at this part between the finger and thumb. But we certainly have evidences of a much greater extent. The scalding often is felt at the bulb of the urethra, at the membranous, and even as far down as the prostatic portion. Often too, the inflammatory action extends to the neck of the bladder, and to the mucous lining of the same viscus. The site of strictures too, which mostly result from the inflammation of gonorrhœa, prove that the consequences at least extend much farther than the glandular portion of the urethra. But still perhaps it is not necessary that the injection should be pushed farther than the glandular portions, and no precautions are necessary to secure such limits, for unless special measures he adopted to push the injection farther, it will seldom pass these limits under the ordinary modes of injecting.

When in spite of all these means the discharge continues obstinate, other plans have been recommended—such are, the introduction of a bougie two or three times. This may or may not be medicated; thus, it may be smeared with mercurial ointment, or with the unguentum hydrargyri nitratis. When perfect gleet has been established, tonics, with sea-bathing, &c. added to the above, are the means best adapted for its removal.

* When the solutions of these two salts are mixed together double decomposition ensues, and a soluble acetate of zinc remains in solution, while the sulphate of lead being insoluble precipitates, which is separated by the filtration. Pearson, however, thought that the efficacy of the injection as thus formed depended upon the stimulant action of the insoluble sulphate of lead upon the lining membrane of the urethra. If such were the case, it would be better to use sulphate of lead mechanically suspended in distilled water. I have tried both salts, the soluble and the insoluble, separately, and the result has been decidedly in favour of the former.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S. Sorbon.

INFLAMMATORY AFFECTIONS OF THE CORNEA.

Treatment of acute keratitis—continued.—Purgatives: iodine, sulphur, tartar emetic.—Local treatment. Chronic keratitis.—Symptoms, causes, duration, and prognosis.—Treatment.

Purgatives—Purgatives are much employed in the treatment of keratitis, and are classed among internal irritants; improperly so, in my opinion, as it is by no means certain that they act by irritating the intestines. It is much more probable that they act on the system in general, by the quantity of fluid which the mucous membrane of the intestines secretes under their influence. The purgatives which appear to be most frequently used are castor oil, jalap, scammony, aloes, colocynth &c.: I am, however, at a loss to decide whether theory or experience has induced practitioners to prefer them. I have myself given all these purgatives a fair trial, either alone or combined, and not only am I unable to say whether one merits the preference over another, but I have even some doubts respecting the value of purgatives in general in this affection. They appear to be useful as adjuvants, when combined with blood-letting, but given alone their efficacy is certainly but slight. In all cases, however, in which the tongue is foul, the breath bad, the abdomen distended, they are extremely beneficial. Indeed, purgatives ought, I think, to be considered more as medicinal agents, to be employed against the disordered state of the digestive organs, than as general remedies likely to act on the inflammatory diseases of the eye.

Among the various purgatives which are used, there are two which have attracted great attention—the tincture of colchicum and calomel. The tincture of colchicum has been principally employed in England, in the rheumatic and arthritic forms of ophthalmia; that is, in keratitis and in iritis. I have often tried it, in doses varying from fifteen or twenty drops to a drachm and a half or two drachms daily. The tincture acts as an irritating purgative, but its purgative effects are exceedingly variable. Sometimes a patient is purged with twenty drops, sometimes a drachm produces no effect whatsoever. Generally speaking, the tincture does not act in doses under a drachm. I now never give less, often more. I believe that it exerts a beneficial influence over the course of the disease, but I have never seen a marked improvement take place from day to day, as some authors assert they have done; and as we have other purgatives the action of which is preferable, I now seldom employ it.

As regards calomel—the panacea of some ophthalmologists for diseases of the eye—I have given it in every possible manner, in doses of six, eight, or ten grains daily, in doses of twenty four or thirty six grains every twenty four hours, divided into fractional doses of two or three grains every hour, combined with opium or with sulphur. In some cases I have administered it so as to produce salivation in the course of three or four days, in others so as only to produce this effect in twelve or fifteen days. The result of all these essays is, that I cannot allow calomel to be as efficacious a remedy as English practitioners represent it to be; I have seldom seen keratitis rapidly modified by its action, and in some cases, although considerable salivation had taken place, the progress of the disease was not arrested. In the greater number of patients to whom I have given calomel, it seemed to produce no effect whatever on the ophthalmia; with some there was slight amelioration, but that amelioration did not seem to me greater than that which the tincture of colchicum and other purgatives generally produce. The efficacy of this remedy has, in my opinion, been much exaggerated; it is in reality much less beneficial in keratitis, and, indeed, in ophthalmia in general, than is generally asserted. I, therefore, only employ it when the disease resists the action of other therapeutical agents, or when the constitution of the patient, or the state of weakness in which he is, from previous loss of blood, will not allow us to have recourse to depletion. I am also cautious in administering it, as, under whatever form mercury is given, its introduction into the system is often attended with disagreeable consequences. It may produce a mercurial stomatitis, or an affection of the mucous membrane of the intestinal canal, which swells, and becomes of a greyish colour; and this affection is rather difficult to cure.

The remedies which are used as alteratives in the treatment of keratitis, are iodine, sulphur, and tartarized antimony.

Tartarized antimony has been much praised in England by Mr. Lawrence and Dr. Mackenzie; they give it according to the method of Rasori, in doses of eight, ten, or twenty grains, in the twenty-four hours. Some practitioners combine it

with sulphur or opium. To form an opinion of this, or indeed of any other therapeutical agent, there are two kinds of data to consult—the facts published by others, and those which our own experience furnishes. When the facts which are brought forward to prove the efficacy of a remedy are carefully examined, it is, in some degree, possible to foresee what will be the result of any essays undertaken to prove how far the assertions made in its favour are correct. In some instances the facts are so striking, that it is impossible not to allow that the remedy is possessed of some efficacy; in others we cannot but question the influence it has had over the course of the disease, when we find, as in the cases published in favour of tartarized antimony, that it had already existed several days before the remedy in question was employed, and that general and local blood-letting, blisters, and setons, were resorted to at the same time. I have myself often tried tartarized antimony, in doses of from four or six to ten or fifteen grains, but do not believe that it exercises any specific action whatever over the disease. It either acts as an irritant on the intestinal canal, or on the system in general, by giving rise to a copious secretion from the surface of the mucous membrane. I think it is as efficacious a remedy as the tincture of colchicum, or purgatives in general, but not more so; and as it occasions continued nausea, which distresses the patient, I now scarcely ever employ it.

With regard to the tincture of iodine, and sulphur, I have not often had recourse to them, and then only when all other means had failed. The results I have obtained are of a very unsatisfactory nature. Sometimes the patients were better, sometimes they were worse; but it would be difficult to say whether the change was to be attributed to time or the remedy. I must say I place very little confidence in their action.

In conclusion, the general treatment of this disease only offers one really efficacious therapeutical agent, and that is, general blood-letting, unless we consider blisters applied over the eyelids as forming part of the general medication. All the other remedies are merely to be looked upon as adjuvants.

Local treatment.—However successful the general treatment of acute keratitis may be, it seldom entirely subdues the inflammation. In most cases, although the intensity of the symptoms may be mitigated, they do not entirely disappear, and it becomes necessary to have recourse to remedies which act directly on the tissue which is affected. Local treatment is not, however, equally serviceable in every form of keratitis; it is indeed more especially on examining the action of topical applications that you will perceive the utility of the division I adopted when describing the disease. When the deeper layers of the cornea are inflamed, their influence must necessarily be very limited, as they do not remain in contact with the cornea sufficiently long to reach the seat of the affection, either by imbibition, or by endosmosis. Some ophthalmologists have been so much influenced by these considerations as entirely to reject local remedies in the treatment of keratitis. This rejection, however, is not warranted by experience, as even in diffuse interstitial keratitis the application of local remedies is not unfrequently followed by favourable results. In superficial keratitis they are extremely useful, especially when the conjunctiva is inflamed—and you well know that this is nearly always the case—by dissipating the inflammation of the conjunctiva. They also act on the affection of the cornea; this you will at once understand, if you recollect the nature of the vascular communication which exists between the interior and the exterior of the eye. When ulcerations of the cornea exist, more benefit is to be derived from topical applications than any other class of remedies.

Before we commence the examination of the various topical applications which are used in the treatment of keratitis, I must call your attention to a certain number of therapeutical agents which do not, in reality, deserve the name of local remedies, as they are generally applied round the eye or above the orbits; I mean the mercurial and belladonna ointments, the tincture of digitalis, &c. Mercurial ointment has been praised as an external application by those who thought they derived benefit from mercurials used internally. The cutaneous surface of the eyelids, and the integuments which surround the orbit, are rubbed night and morning with a small quantity of the ointment. Thus applied it is often productive of benefit, but it is not, certainly, as efficacious as most authors have asserted. It is now seldom used alone, being generally associated with some preparation of belladonna, digitalis, or opium. These substances are combined with the mercurial ointment, principally with a view to modify the photophobia and epiphora, which form such prominent symptoms in keratitis. It was supposed that these symptoms originated in retinitis, or in the inflammation of the ciliary circle, and by employing belladonna—a substance which acts principally on the nervous system—it was thought that they might be mitigated.

These theoretical ideas are, you well know, erroneous, photophobia and epiphora being generally caused by ulceration of the cornea, consequently the influence of these medicinal agents cannot be very great. The combination of these substances with mercurial ointment is, nevertheless, advantageous when the pain is intense, as is often the case in deep-seated keratitis. The tincture of digitalis may be employed in the same manner, and with the same results.

The most simple topical remedies are emollients, such as linen steeped in cold or warm water, and poultices. The more important are the various collyria and ointments.

In the first stage of keratitis, if the inflammation is very slight, it may possibly be subdued by bathing the eye continually with cold water; but when that period is passed, a compress steeped in warm water, or a light poultice placed between two folds of linen, is more beneficial. Poultices are useful, as emollients, in deep-seated or interstitial keratitis, unattended with ulceration; but in the superficial form of inflammation, or when there is an ulcer, they appear rather to irritate than to do good. It is probable because this remark has not been made, that many practitioners disapprove of them in every case. Ointments are scarcely applicable to keratitis, unless it be to the superficial form when accompanied by conjunctivitis. Owing to the convex form and smooth surface which the cornea presents, they are swept off by the eyelids before they have had time to act on the disease. They are even injurious when the cornea is ulcerated, as they often remain on the ulcerated surface, and, acting as foreign bodies, increase the inflammation. This last remark will also apply to the different dry collyria which are employed, such as calomel, the oxide of bismuth, &c.; they are equally injurious when any ulceration exists. Dry collyria may, however, prove useful in superficial keratitis, if the cornea is entire; in deep-seated keratitis, on the contrary, they can be of little or of no use.

The liquid collyria employed in the treatment of keratitis are nearly the same as those which are used in conjunctivitis. They are, as we have already seen, extremely numerous, but not more than three or four are worth preserving. The nitrate of silver collyrium deserves here, as in the treatment of conjunctivitis, the preference over all others; it is an exceedingly useful remedy in superficial keratitis, and is even still more beneficial when the inflammation is accompanied by ulceration of the cornea. You must not, however, expect its effects to be as rapid as in that affection; the vitality of the cornea is not as energetic as that of the conjunctiva, and this physiological condition necessarily exercises more or less influence over the affections of which it may become the seat. I shall not enter into any details respecting the composition and the manner of using this collyrium, as I have already spoken at length on the subject when I gave the treatment of conjunctivitis.

The collyria containing the sulphate of zinc*, and the deuto-chloride† of mercury, belong to the same class. They are both useful remedies, but inferior, I think, to the nitrate of silver collyrium. In some cases of chronic ulceration I have, however, known the solution of the sulphate of zinc succeed, when the nitrate of silver collyrium had failed. These preparations are therefore worth retaining, as one may succeed when the other fails. Narcotics constitute another class of topical agents, among which you will find the tincture of belladonna, the concentrated aqueous solution of opium, Rousseau's and Sydenham's tincture of opium. I have repeatedly applied these preparations pure to the eye in acute keratitis, and have found that in five cases out of six the inflammation was exasperated; I therefore look upon them as topics of a very irritating nature, and not at all adapted to the acute stage of the disease. Although I disapprove of them when pure in acute keratitis, they may, I think, be serviceable if more or less diluted. Thus, in some cases of ulcerated keratitis accompanied by intense photophobia and neuralgic pain, I have derived considerable benefit from a collyrium containing fifteen or twenty drops of Sydenham's laudanum to four ounces of rose water, to which I sometimes add four or six grains of acetate of lead, or twenty grains of extract of belladonna.

Such is the treatment of acute keratitis. We have yet to study the chronic form of this disease, and its various complications, which we will do in our next lectures; you will then, I hope, have acquired a full and comprehensive knowledge of the pathology and treatment of the inflammatory affections of the cornea.

Chronic Keratitis.

Chronic keratitis, though generally confounded by authors with other diseases, and but little known or studied before the publication of M. Mirault's interesting essay (Archiv. Gén. de Méd. 1834), is, nevertheless, an extremely common disease. In most instances it is merely the consequence

* R. Sulph. Zinci, gr. iv.; Aquæ, oz. i.; Mucil. dr. i. M. ft. collyrium.

† R. Hydrar. Deuto-chlor. gr. ¼ ad ½; Aquæ, oz. i. M. ft. collyrium.

of acute inflammation of the cornea, but is not unfreqnently met with as a primitive affection.

The anatomical characters of chronic keratitis not being the same when it commences at the centre of the cornea as when it commences at the circumference of that organ, it will be necessary for us to examine them briefly in both forms of the disease.

The instances in which chronic keratitis first manifests itself in the centre of the cornea are not so rare as is generally supposed. Whenever it is occasioned by external injury, this region is nearly always the first affected; and you must be well aware that it sometimes occurs spontaneously in the same part of the cornea, as we have lately had several cases of this nature in our wards. When the inflammation is diffuse, the following are the characters which the cornea presents: its usual transparency gradually diminishes, and it assumes a palish tint, as if it were obscured by a slight mist. Its surface when examined with a lens appears to have lost its polish, and to be covered with small, half opaque specks; but no vessels can be traced in its tissue. This my own experience enables me to advance with certitude, although many observers, and among others M. Mirault, have maintained the contrary opinion. M. Mirault, who, in his thesis, stated that minute vessels might be observed in the cornea in this the first period of chronic keratitis, has, however, since then retracted his assertion. Sometimes these symptons succeed each other with rapidity; sometimes, on the contrary—and this is more frequently the case — they are slow in manifesting themselves. There is no shedding of tears, and the patient feels little or no pain; but the sight is always more or less disordered—a fact which the nature of the lesion at once explains. The disordered state of the visual functions is, indeed, sometimes the only symptom which informs the patient of the existence of the disease. The suffusion of the cornea, slight at first, gradually increases as the affection advances; and, unless its progress be arrested, the cornea becomes lactescent, or of a deep opaline colour; and flakes of coagulable lymph are deposited between the lamellæ of its tissue. This change in the transparency and texture of the cornea is generally less apparent as we approach the sclerotica. The friction of the eyes against the palpebræ causes pain; and photophobia, as also a certain degree of epiphora, soon declare themselves. When the affection has advanced thus far, the circumference of the cornea, and that part of the sclerotica immediately adjoining, becoming vascular, it is then impossible to distinguish this form of chronic keratitis from the form which we have yet to examine.

When chronic keratitis commences, as it generally does, at the circumference of the cornea, the principal characters are to be found in the peculiar vascularity of the conjunctiva, the sclerotica, and the cornea. The vascular zone of which I spoke when treating of acute keratitis—and which, as you well know, is formed by the vessels of the conjunctiva, and by those of the sclerotica—exists, but is less regular and less apparent. The conjunctival vessels are superficial, small in number, and irregularly distributed, many of them terminating in the superficial lamellæ of the cornea. Those of the sclerotica, which are given off by the ciliary branches, are deep seated, numerous, run nearly parallel to one another, and, converging as they approach the cornea, are lost in its tissue. Although the cornea thus becomes injected, its transparency is not necessarily impaired; for the small red filaments, which give rise to the vascular appearance it presents, may exist without the slightest effusion of lymph being observed along their course. Mr. Travers says that he has never seen them unaccompanied by slight effusion; but if you observe attentively the patients who enter our wards, you will soon find that the cornea may remain perfectly transparent, though vascular. At a later period, however, coagulable lymph is effused on each side of these vessels; and the opaline streaks, which are thus formed, may, by uniting, entirely obscure the cornea.

You must not, however, suppose that the vascularity is always such as I have just described it. The modificationss it presents are extremely numerous, and can with difficulty be accurately described. It is only by attentively studying the disease at the bedside of the patient that you can become familiar with the various forms under which it is observed. Thus the vascularity may occupy a portion of the cornea. When this is the case it assumes a semilunar form, and is either situated at the angles of the eye, where the long ciliary arteries terminate, or at the extremities of the vertical diameter of the cornea, where the short ciliary arteries are distributed. In some cases it is superficial, and is then evidently formed by the anterior ciliary arteries, which anastomose with branches of the muscular and palpebral. Sometimes it is deep-seated and general, and as manifest at the centre as at the circumference.

When the vascularity is circumscribed—and this is principally observed after acute keratitis with ulceration—that

part of the cornea which is affected may either remain transparent, or assume a whitish or greyish colour. It may also be covered with small granulations, or there may be a thickening of the conjunctiva. This thickening of the conjuuctiva differs from pterygium by its irregular termination, and especially by its adherence to the cornea underneath, which is also more or less vascular.

When the vascularity is superficial, the entire cornea becomes covered with small granulations. Examined with a lens, it appears as if it had been strewn with sand. The vessels which appear on the surface interlace as they arrive at the centre, and form a network, which gives the cornea the appearance of a mucous membrane. It is to this form of the disease, when carried to its greatest height, that authors have given the name of pannus, from the fancied resemblance which there exists between the cornea and a piece of red cloth. It seems as if a soft, thin, red, fungous veil had been applied over the anterior surface of the eye. The cornea, however, still retains some degree of transparency between the principal vascular divisions, so that the patients continue to distinguish large objects, although they are not able to discern with precision their form.

When the vascularity is diffuse, general, deep-seated, and interstitial, the cornea retains, during a longer period, its characteristic properties. The vessels being less interlaced do not so soon modify its transparency, and the granulations of its surface are much longer before they become so developed as to impede the passage of light into the eye. The cornea resembles a mirror, crossed in various directions by small vascular filaments, the volume of which seems rather to increase than to diminish as they recede from the conjunctiva. It is before they disseminate in the tissue of the cornea that the vessels of the conjunctiva and those of the sclerotica anastomose. Between the ramifications of these vessels may be seen streaks, or patches of coagulable lymph, which give the cornea a singular appearance. The pupil always remains clear.

This form of chronic keratitis is nearly always combined with the superficial form. It is impossible to assign a limit to its duration, such is the tenacity with which it resists every plan of treatment.

If in addition to these characters, you bear in mind, that in all cases of chronic keratitis vision is more or less impaired, you will be able at once to recognise the disease, whenever it presents itself to your notice.

Causes.—The causes of chronic keratitis being the same as those of acute keratitis, acting either with less intensity, or on less irritable subjects, it would be useless for me again to enumerate them. Among these causes, however, there is one which I cannot pass over, as little attention has been paid to it by surgical writers; I allude to chronic granular blepharitis. I have, in several instances, seen the affection of the cornea gradually developed under the influence of this cause—a fact which the contact of the membrane with the diseased eyelid easily explains. In one case, in which the granular state of the palpebræ had existed for three months, the keratitis corresponded perfectly with the diseased portion of the inner surface of the eyelids, diminishing and increasing, as the granular blepharitis diminished or increased. In another case the relation between cause and effect was still more evident. The patient, when he entered my ward, had granular blepharitis of the temporal half of both eyelids; before long he was attacked with keratitis, but on the temporal half of the cornea only.

Duration and prognosis.—It is altogether impossible to assign a limit to the duration of this disease. It is one of those affections in which the hopes of the medical attendant, as well of those of his patient, are repeatedly raised and repeatedly disappointed. The symptoms often appear to give way for a few days, when suddenly, in the course of a night, the disease regains the ground it has lost. Even when the treatment employed has proved successful, and the inflammation appears subdued, a relapse is of exceedingly frequent occurrence. Abandoned to its own course, the duration of chronic keratitis is indefinite; it often remains many months in the same state, and may at last terminate by entirely disorganizing the cornea. Suppuration of the whole eyeball, or even of the cornea, seldom, however, takes place. That form of inflammation which commences by the centre of the cornea is the mildest; yet it often gives rise to specks which impair the sight of the patient more or less, according to the situation which they occupy. In the order of their importance, I may next name partial keratitis, and then the superficial form of the disease. When the circumference of the cornea only is vascularized, the inflammation often gives way, but when the vascularity is general, deep-seated, and accompanied by the white streaks I have already described, little or no hope of effecting a cure can be entertained.

Treatment.—Chronic keratitis, when it has existed for a considerable length of time, and has invaded the entire cornea, is one of those diseases against which all the

therapeutical agents we can employ are powerless, and when it does give way, the cure ought sooner to be attributed to nature than to art. It is in vain that you employ the powders, the ointments, the solutions, the collyria, which are often successful in the acute form of the disease —they appear to make no impression. Blisters over the eyelids, which one would suppose likely to prove beneficial, seem to have lost their efficacy. Blood-letting, purgatives, and mercurials, are not more successful agents, and annular cauterization with the nitrate of silver, lauded by some practitioners, has been as ineffective, in my hands, as all other remedies.

Some surgeons, seeing how difficult it is to overcome the inflammation, have proposed the excision of that portion of the conjunctiva which surrounds the cornea, with a view to prevent the afflux of blood to the diseased membrane. If, however, you call to mind what I have said respecting the distribution of the vessels of the eye, you will perceive at once that the operation is not calculated to accomplish the end proposed. By excising the conjunctival vessels which ramify on the superficial lamellæ of the cornea only, you destroy but one of the sources from which that membrane is supplied with blood; the ciliary arteries, which furnish the ramifications seen in the tissue of the cornea, remaining intact. As might, therefore, be easily anticipated, the result of the operation is, generally speaking, far from favourable. I have tried it in many instances, but without success. Among other cases I remember that of a man who was in my wards some few years ago. I tried purgatives, mercurials, cauteries on the temples, blisters over the eyelids, and every topical application that can be thought of, yet he left me nearly in the same state as when he entered the hospital. Some time after, the circular incision of the conjunctiva was resorted to in another hospital, and the case was published in the medical journals as successful. A month after this, however, he was again in my wards, exactly in the same state as when he left me.

Fortunately, the cases we are called upon to treat are not all of this nature. They may be recent, and then often yield to proper treatment. If the tissue of the cornea itself is inflamed, general measures are indicated. In such cases I generally proceed in the following manner:—I begin by bleeding from the arm, regulating the quantity of blood abstracted by the intensity of the inflammation, and the constitution of the subject; the following day I give a purgative; the fourth day I cup the patient on both temples, and on the sixth day I recommence the same course of treatment, modifying it as circumstances may direct. Cauteries on the temples, so often employed by Mr. Lawrence, and mercurial frictions, may also be employed. By a treatment thus directed, I have often succeeded, when local measures had proved altogether ineffectual. Collyria are, generally speaking, of little or no use in this form of the disease.

When the inflammation lies principally, or entirely, in the superficial layers of the cornea, the treatment is different, topical remedies being then most likely to prove beneficial. Calomel, bismuth, laudanum, and the various resolutive collyria, may be employed alternately. The solution of the nitrate of silver, prepared according to the formula which I have given you, more especially deserves the notice of practitioners. It has often been of great service to me when other remedies have failed to produce any effect. Excision of the conjunctiva is likely to prove successful in this form of the disease, unless, indeed, the inflammation also occupy the deeper seated lamellæ of the cornea; the superficial vascularity of the inflamed membrane being supplied, as you well know, by the vessels of the conjunctiva.

It is generally considered necessary in keratitis, and indeed in nearly all other ocular inflammations, to keep the eyes covered, and to place the patient in a room from which light is more or less excluded. These precepts are, however, founded on erroneous views, and are, I am convinced, more calculated to do harm than good. I do not mean to say that, when the eyes are inflamed, they should be exposed to the open air, or to a strong light without any protection, for this would be falling into the other extreme; but that a middle course may be, and ought to be, adopted. When a portion of the conjunctiva has been excised, the measures which I now condemn must be resorted to, with a view to prevent, if possible, the inflammation and suppuration of the wound that has been made. I would here mention, that the loss of substance which follows the circular excision of a portion of the conjunctiva is sometimes attended with disagreeable consequences. In one case, in which the operation had been performed, the formation of the cicatrix drew down the palpebral conjunctiva, giving rise to ectropium of the eyelid. In another case in which the inflammation of the cornea appeared to be kept up principally by the vessels of the conjunctiva, excision of a portion of that membrane was followed by suppuration of the cornea, and the total loss of the eye; it would seem as if the nourishment of the cornea had been supplied by the conjunctival vessels alone.

CLINICAL REPORTS

OF

DIFFICULT CASES IN MIDWIFERY.

By ROBERT LEE, M.D., F.R.S.

Physician to the British Lying-in Hospital, and Lecturer on Midwifery at St. George's Hospital.

[Continued from p. 877.]

FOURTH REPORT—*concluded.*

Forty-two Cases of Difficult Labour, in which the Forceps was applied.

CASE CI.—On the 20th October, 1832, I was called to a patient in the lying-inward of the St. Marylebone Infirmary, who had been in labour with her first child upwards of thirty hours, and it was reported that the head had made little progress for twenty hours. The occiput was to the right ischium, and the left ear was immediately behind the symphysis pubis. The other ear could not be felt. After dilating the external parts, the blades of the forceps were easily applied and locked, and the head extracted without much force. The child was alive, and had sustained no injury.

CASE CII.—Mr. Jorden, of Lower Belgrave Street, Surgeon-Accoucheur to the St. George's Lying-in Institution, on the 10th April, 1838, at 11 P.M. requested me to see a private patient, who had been unusually long in labour, in consequence of the face of the child presenting. The head had not advanced for eight or ten hours. The face was much swollen. There was not the slightest probability that the labour would ever be completed without artificial assistance. I applied the forceps, and soon extracted the child alive and uninjured. The mother recovered favourably.

It is impossible for a case to occur, in which the employment of the forceps could be attended with more satisfactory results than this. Without the forceps, the life of the child must have been destroyed before labour was completed.

CASE CIII.—On the 29th August, 1824, 2 P.M. I was called to a patient residing at 7, Harford Place, Drury Lane, who had been in labour more than twenty-four hours. The os uteri was rigid, and little more than half dilated; the membranes were ruptured; the head had not passed into the cavity of the pelvis. Pulse strong and frequent; tongue loaded; much thirst; abdomen tender. The pains were regular, but had little effect upon the head. Twelve ounces of blood were drawn from the arm, and an opiate clyster administered.

At 9 P.M. the os uteri fully dilated, and the head so low in the pelvis that the ear could be easily felt. As symptoms of exhaustion were beginning to appear, and I thought it probable the head would not be expelled without assistance, I applied the forceps with great care, and completed the delivery in half an hour. The child was alive, and the mother recovered very well.

CASE CIV.—On the 18th July, 1835, was called to a case of protracted labour, by Mr. Harding, in which the head of the child had been in the cavity of the pelvis for six or eight hours without advancing. The os uteri was fully dilated. The pains were strong and regular; the left ear was behind the symphysis pubis. The blades were easily passed and locked, and with very little force the head was extracted without any mark or injury: it was alive. Hæmorrhage of a formidable character soon took place, but it was checked, and the patient recovered favourably.

CASE CV.—On the 22d July, 1839, at 3 A.M. I was requested by Mr. Webster, of Connaught Terrace, to see Mrs. H. who had been in labour thirty hours with her second child. A great part of the head was in the cavity of the pelvis, and an ear could be readily felt behind the symphysis pubis. The head had not advanced for many hours, and the pains, which had been declining in strength, had no effect in pressing it forward. The bones overlapped one another, and there was a large tumor of the scalp formed. The meconium of the child was passing in considerable quantity. It was evident the head would never be expelled by the natural efforts, and we determined to employ the forceps, the blades of which were introduced and locked without much difficulty, and the head easily extracted. The child was alive, and the mother recovered in the most favourable manner. It was impossible for a case to end in a more satisfactory manner than this did, or for greater benefit to be derived from the forceps.

This patient, after being long in labour with her first child, and threatened

with convulsions, was delivered by craniotomy. The head of the child was jammed in the brim of the pelvis, and an attempt to apply the forceps having failed, it was opened, and extracted with the crotchet.

Case CVI.—Mrs. P. æt. 26, April 1835. First pregnancy, full period. Returned home after midnight from a large dinner party, at which she had partaken of a variety of dishes and wines, and had been seated near a large fire. Labour came on at 4 A.M. and soon after she became incoherent, and said she felt her teeth falling out of her head. On attempting to drink some warm tea, she bit a large piece from the edge of the china cup, and crushed it between her teeth. Violent convulsions immediately followed. Copious venesection and an enema gave no relief. In an hour and a half the head of the child was within reach of the forceps, and it was applied, and the child was soon extracted alive. By feeling with the finger the umbilical cord round the neck of the child pulsating, it was known to be alive when the forceps was applied. Although every precaution was taken to prevent any injury being inflicted on the mother during the time the head was being extracted, the perineum was extensively lacerated, from the impossibility of retaining her for an instant in the same position. She died at 11 A.M. The child has been reared.

Case CVII.—On the 27th August, 1833, I was called to a patient of the St. Marylebone Infirmary, residing in Cleveland Street, Grafton Street, who had been forty hours in labour with her fourth child. The head was at the outlet of the pelvis, and, as the pains were still strong and regular, there was a great probability that it would in time have been expelled without artificial assistance. I thought, however, that it would sustain less injury if extracted with the forceps than if left to suffer further from the pressure, as it was much swollen. The instrument was easily applied, and the head extracted with little force. The child was alive and did well, and the mother sustained no injury.

Case CVIII.—Several years ago I was called to a case of protracted labour from rigidity of the parts at the outlet of the pelvis. The patient was advanced in life before she married, and it was her first child. The os uteri was fully dilated, and the head advanced so low into the pelvis, that an ear could readily be felt. The head was much swollen and all the soft parts. The pains were feeble, and had no effect. I had no difficulty in passing the blades of the forceps over the sides of the head; but I could not without much, indeed by any degree, of force get them to lock. The medical friend who consulted me made several attempts to lock the blades, but could not succeed, and he determined, contrary to my advice, to endeavour to extract the head with the blades unlocked, which he succeeded in doing to my surprise, and thereby saving the life of the child. The perineum was, however, torn, and I have not since felt justified in operating with the blades of the forceps unlocked.

Case CIX.—Mr. Walker, of Marylebone Street, called me on the 11th August, 1838, to deliver a woman who had been thirty-six hours in labour. It was the first. She was a small woman, without being distorted. She had previously born a dead child at the seventh month. The os uteri fully dilated; vagina not rigid. The head was in the pelvis. The head was lying transversely, and an ear felt in the usual situation. I found no difficulty in applying and locking the blades of the forceps, and extracting the head; but in doing this the perineum was slightly torn. The child was alive, and the mother recovered, and suffered no great incovenience from the injury she had sustained.

The head had made no progress for a considerable time. The pulse was remarkably slow, and she was at times incoherent; and between the pains she lay in a state approaching to insensibility. These were the reasons which induced me to deliver artificially.

Case CX.—January 3d, 1834, at 11 o'clock at night, I was requested to see Mrs. G., æt. 40, who had been upwards of thirty-six hours in her first labour. The membranes had been ruptured twenty-four hours. In the morning a dose of laudanum had been given, and about mid-day three doses of the ergot of rye. The pains had nearly gone off. The head was so low that an ear could be touched behind the symphysis pubis; and the anterior lip of the os uteri, puffy and tender, was pressed down between

them during each pain. The vagina was hot, tender, and excessively rigid, as was the perineum. The labia were swollen to twice the natural size. Fourteen ounces of blood were drawn from the arm, a stimulating clyster thrown up, the bladder relieved by the catheter, and warm fomentations applied to the external parts. When the pains came on, the anterior lip of the os uteri was pressed up with two fingers. The pains returned with greater force and regularity, and for a time I hoped that the head would be expelled; but at four o'clock on the following morning the contractions of the uterus entirely ceased, and she fell into a state of the most alarming exhaustion. The head was sufficiently low for the application of the forceps; but the soft parts were so swollen and tender, that it was impossible to introduce the blades, and the head was opened. Although I extracted the head very slowly, so rigid was the perineum, that it gave way in a slight degree in spite of the most careful support.

Inflammation and sloughing of the vagina followed, but she ultimately recovered without any injury to the bladder or rectum; and I have since delivered her of a living child, at the full period, with the forceps. The cicatrix in the vagina was extensively lacerated during the extraction of the head, without any serious mischief resulting from it. Blood-letting and all other means were had recourse to in the second labour, and the forceps was not applied till she was completely exhausted. The cicatrix of the vagina was too thick and extensive to admit of any relief from its division with the scalpel.

The child could not possibly have been preserved in this instance without the forceps.

In none of the forty-two forceps cases now related, did any thing but mischief result from the use of the instrument before the greater part of the head of the child had passed through the brim of the pelvis, and the orifice of the uterus was fully dilated. In no case was the employment of the forceps advantageous where the blades were applied and locked with great difficulty, and great force required to extract the head of the child. The lives of eleven children were saved, which otherwise must have been sacrificed, out of the forty-two, by the forceps; and the death of only three of the mothers can be referred to its injudicious use. Sixteen, however, suffered more or less severely from laceration and sloughing of the perineum, vagina, bladder, and rectum. By a little more caution most of these bad consequences might, I think, have been altogether obviated.

In more than twenty cases of protracted labour, where it had been proposed to deliver with the forceps—the histories of which it would be tedious to relate—I recommended delay, and they all terminated favourably without artificial assistance.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(*As delivered in his Lectures at Sydenham College School of Medicine.*)

[Continued from page 887.]

II.—INJURIES OF THE CHEST—*concluded.*

5. *Pain a devious indication of site or nature of injury.* — *Cases in illustration.* — 6. *Varieties in the suppurative action.*—*Much purulent expectoration not always a sign of extensive pulmonic disease; neither is its absence to be taken as a proof to the contrary.*—*Occasional sudden evacuation of contents of an abscess of the lungs by the mouth.* 7. *Hæmorrhage on receipt of wound—how occasionally arrested.*—*Internal hæmorrhage ushered in by rigors.* 8. *Intermission of chest symptoms.* 9. *Foreign bodies not always giving rise to disease when lodged in lungs.*—*Treatment of severe injuries of chest.* 10. *Wound of heart.*

5. It will be seen, from the case of West, that pain is a very devious indication of the site of injury, or its extent, the pain and inconvenience being sometimes referred to the uninjured side or part.

These injuries also give rise not unfrequently to an order of sympathetic pains difficult to understand, particularly pains of abdomen and stomach, where no alteration of structure can be found to account for them in those organs.

Case where chief pain was referred to abdomen, and the ball fancied to be lodged there by patient.

George Parker, penetrating gun-shot wound of thorax: recovered.

Ball entered the right side of chest above the tenth rib, near its neck, fracturing one of them. Considerable hæmorrhage recurring twice; checked by wet compress and full bleeding. States that he immediately expectorated blood.

On admission anxiety of breathing; pain of abdomen, tense and tender on pressure, particularly near to umbilicus, where he says that he feels the ball is lodged.

V.S. ad. ℥xvj.

Next day easier; respiration also; no return of hæmorrhage; very little bloody expectoration; still pain at point above indicated; pulse about 100, contracted and wiry; tongue furred; much thirst.

Hirud. xxx. V.S. ad ℥xvij.

3d day.—Slept a little last night; is at present comparatively easy; chief pain at the one point; also of right shoulders, near lower angle of scapula; aggravated on moving the arm; pulse 96, soft; respiration natural; skin ditto; tongue clean and moist.

4th.—Slept a little towards morning; complains more to-day of pain of right side of chest near wound, increased on respiration, but has no cough nor spitting of blood; troubled with painful flatulence of abdomen; relieved by enema and free evacuations.

5th.—Relieved by cupping right side; abdomen more relaxed; fancies he feels the ball moving as he changes posture; breathing pretty easy; pain in abdomen, and on side, in full inspiration.

6th.—Slept well; pulse 81, softer; tongue clean and moist; a little soreness only in abdomen on pressure; respiration tranquil; suffers little when quiet.

7th.—Bullet discovered below the integuments of the axilla, and extracted, followed by immediate relief of severe pain shooting down the side from axilla, under which labouring all night; pulse 80; respiration tranquil; still considerable pain of right and posterior part of chest round the wound.

36th.—Improved gradually; the ball a good deal jagged, and grooved deeply; a little scraped and flattened. Judging from this appearance, in connection with the symptoms, it seems probable that after striking the ribs sharply, and fracturing them, it glanced upwards, and exterior to the cavity of the chest, instead of passing through it. The ribs seem to have united again. Two small portions of bone came way, under the arm-pit. Incapable of any exertion. Pulse is very remarkable, so small and fine that scarcely can the finger note the beat, barely 60 per minute; appetite good, and in all other respects his health seems not much affected; no previous disease of chest to his knowledge; respiration confined; he has severe pain, on attempting to draw a full breath, in a perpendicular line from about the sixth rib to axilla.

78th day.—Discharged cured.

Wound of thorax giving rise to anomalous pains in epigastric region—in chest—not at the site of injury—in the groin and knee.

J. West, of middle age, wounded on the 25th of July, 1833, by a musket-ball, which entered on the left side between the 5th and 6th ribs, and ascending obliquely to the point of its exit on the right side, where it fractured the scapula a little above the inferior angle.

On his admission he had not lost much blood, but was suffering severely from pain and difficulty of breathing. Air was forced out from the wounds; his pulse was full and quick; pain referred to his right side *below* and *anterior* to the course of the ball; he was bled to twenty ounces, and a blister was applied to the seat of pain. He passed a tranquil night, apparently much relieved by the treatment adopted.

2d day, not much pain; respiration easy; pulse pretty good; tongue white; bowels rather confined in despite of aperient medicine.

Rep. Haust. Purg. Haust. Salin. 4tis horis.

3d day I examined him at greater leisure than the influx of wounded and press of duties had previously permitted. I found his breathing short and hurried; he complained of a hacking and irritating cough. There was pain when he breathed, but not as might have been anticipated, in *the course of the wound*, but in the *epigastric region* and *across the lower and anterior part of the chest*; pulse accelerated, and a little sharp; tongue moist and clean; skin cool.

Ordered a mixture with Digitalis.

15th day.—Little in the interval to be remarked; the cough was troublesome; and on the 6th day suppuration was established in the wounds, and soon discharged freely; the general health tolerably good; bowels open; pulse soft; though patient often sleepless at night from cough. On the 14th day he complained *of pain in the groin*, without any obvious cause, unattended by either swelling or redness; and on the 15th he complained of suffering much, *not only from pain in the groin, but in the knees also.*

20th day.—The wounds had continued discharging freely, and seemed healthy; added to which, he slept pretty well at night, but during the preceding night hæmorrhage had supervened to a considerable extent; cold was applied, and a bandage and compress, which retained it externally: circumstances, however, led to the belief that it continued internally; he lay in considerable pain, groaning frequently.

21st day.—I found him lying perfectly unconscious of surrounding objects; breathing difficult and laboured; groaning continually as though suffering great pain; countenance anxious; surface of the body cold; pulse 100, small and feeble; the symptoms leaving little doubt that effusion or extravasation had taken place to a considerable extent. During the afternoon he died.

Bleeding, digitalis, colchicum, and free discharge from the bowels, seemed in the latter stages altogether ineffective.

Inspectio Cadaveris.—An incision was carried across the back, from the left side, where the ball entered, to the opposite side, a little beyond and above the inferior angle of the scapula, where the ball had been extracted on the field. On the left, as far as the spine, this incision exposed the course of the ball, and for a considerable space below there was effusion of blood between the layers of muscles, attended with some disorganization of substance; at the spine all trace of the ball seemed lost; it was found to have passed over the arch of the spine, striking off at its root the spinous process of the 6th dorsal vertebra, laying bare the theca of the spinal cord, without further injuring it. Beyond this some portions of red cloth were found, and the ball had then wheeled round the ribs, between the layers of muscles, until it came in contact with the external edge of the inferior costa of the scapula, which it fractured with such violence as to drive a spicula of some size through the intercostal space, wounding the pleura, and probably the lungs. The latter effect, however, could not be distinctly ascertained, for although the piece was found projecting into the cavity of the chest, the lungs were so adherent with the effused fibrin, that no trifling lesion could have been demonstrated.

On opening the chest a quantity of dark-coloured serum and semi-coagulated blood required removal, when extensive adhesions of both lungs over the whole surface, except on the left side, where the effused blood had separated the lung from the walls, were found; the vessel wounded could not be seen. Perhaps much, or the whole of the hemorrhage, might have arisen from the sharp spicula penetrating the substance of the lung.

This is a highly interesting and instructive case in many points of view; perhaps had the true nature of the injury been ascertained during life, the removal of the projecting spicula might have led to different results—at least the chances of recovery would have been materially increased, although it is very probable from the appearance of adhesions of old standing, and his poor state of health, that he still would have ultimately sunk. In this case we find all the mischief to be produced by a fractured rib, effected by a spicula of scapula forced in a very unusual manner to project inwards through the intercostal muscles. It shows the necessity of a careful, dexterous, and scientific examination of all such wounds when first received; when alone free examination in many instances is possible.

The pain, referred to the epigastric region, and even below and anterior to the wound rather than to the seat of injury, which was of a nature eminently calculated to induce inconvenience and suffering at the very point where the cavity was penetrated, cannot fail to impress upon you the importance of looking upon the site of pain as an expression or indication of the point injured with becoming caution. A similar feature, you will find, marks a case I shall have shortly to allude to in reference to other effects.

Finally, what is to be said of the pains of groin and knees: have they

reference to the injury of the chest, or the injury of the spinal column? Looking at the entire absence of all other symptoms indicating spinal injury, and the point implicated—being so far above the lumbar plexus—it seems doubtful. Not the least extraordinary part of this complicated case lies in the fact, that although the theca was laid bare, the spine suffering great violence, yet during life nothing drew the attention of either patient or surgeon to this part of the injury.

Indeed, it will often happen that the symptoms are only concentrated on the real site of injury towards the termination of the case—even on the last day only. Of this the following gives a remarkable example. It will be seen that the first and most prominent symptoms pointed to the opposite cavity, where probably some effusion of soft lymph dulled the sound on percussion, while great effusion came on subsequently in the other; and only on the last day were the most urgent symptoms referred to the true site of very extensive injury.

Case of penetrating wound, with lesion of right lung; the most prominent symptoms, until the last day, referring to the left.

John Jackson, æt. 21. A musket-ball entered between the third and fourth ribs, carrying with it a long spicula of rib into the middle lobe, and traversing through the apex of the lower lobe: it was found after death lying loosely on the left side of the spine, near the last dorsal vertebra.

1st day.—Hæmoptysis; hurried and painful breathing; sharp and bounding pulse, 120; skin hot and dry; cough.

3 P M.—Relieved by the abstraction of twenty ounces of blood. Dull sound from the left side on percussion.

4th.—Pulse feeble; hæmoptysis diminished; sleepless; feels easier sitting up; thirst; bowels opened for the first time since injury. This day no expectoration of blood.

5th.—Increased arterial action and pyrexia; return of hæmoptysis; pulse 100, hard and bounding.

V.S. ad ℥xx.

6th.—Hæmoptysis again has disappeared; pulse feeble; patient unable to lie down.

7th.—Sense of weight in the left side of chest most urgent; been hitherto able occasionally to lie on both sides; wound not suppurating; hacking cough, with severe pain, which latter symptom is chiefly referred to the diaphragm; bowels freely opened; pulse 128, neither full nor hard.

8th.—Lies upon the right side, and has lost in a slight degree the sense of weight and pain in the left.

9th.—Slightly improved; pulse 120, full, not hard. Feverish night sweats.

19th.—Unable to lie down; cough constant; pain excessive down right side, and to the middle of the back; pulse exceedingly feeble and indistinct, 128; no perspiration last night; suffered, on the contrary, from cold. Died.

Post-mortem.—A quantity of fœtid air escaped from the thorax when opened. Two quarts of mingled blood and serum, with large portions of lymph and parenchymatous structure floating in it, were found in the right cavity of the chest. The lungs shrunk to the spine, occupying a very small compass. The superior lobe was healthy. The ball had penetrated the middle lobe, and passed out at the apex of the lower. The lung was gorged with blood in the track. The structure of the lung was not otherwise affected. The pleura costalis and pulmonalis, especially of the middle and lower lobe, was thickly coated with lymph, and its structure thickened to the extent of nearly a line, as may be observed in the preparation on the table. Lymph and evident symptoms of inflammation were found on the left side, but no adhesions; and the whole of the lung was healthy. Liver enlarged, but apparently not diseased in structure; gall-bladder nearly empty; rest of the viscera normal.

The symptoms sufficiently indicated effusion; and from his being relieved by lying on the right side, it was of course to be presumed that the effusion was chiefly on that side. The sense of pressure or weight on the left side, of the lung, which it afterwards seemed had entirely carried on the respiration, gave similar diagnosis. Thus although, as I have stated, the left side until the last day was the site of the symptoms, yet they indicated effusion on the right. *They did not, however, indicate lesion or other mischief; on the contrary, they would rather have led to the belief that any such injury was on the opposite side*—that is, the left—where the lungs

were not only uninjured, but healthy. The absence of suppuration in the wound is worthy of remark, in connection with the internal effusion.

Continuing the description of the more remarkable effects of these injuries, and the prominent features which occasionally give the leading character to the case, and form the basis of diagnosis and treatment, we shall find that there are many singular varieties not yet touched upon, and none more important and necessary to be understood than those of the suppurative stage.

6. Sometimes there is not great discharge from the wound, but apparently in lieu there is copious purulent expectoration, which the patient describes to come from the injured part. This view is the more important, inasmuch as it establishes a fact not generally understood, that the abundance of purulent expectoration does not in these cases indicate more extensive disease of the lungs; for, on the contrary, this discharge gradually abates, as it does when occurring from the wound, and the patient recovers. It seems, in fact, to be only an internal instead of an external secretion, and discharge of matter.

Case of penetrating wound and injury of lungs, with moderate suppuration, but long-continued expectoration of matter.

Peter O'Brien, æt. 24. Ball entered two inches below tendon of pectoralis major, at anterior axilla, fractured sixth rib, and entered the chest. Countenance pale and fallen; cold perspiration; difficult and painful respiration; pulse slow, compressed, and laboured; and soon became weaker, and thread-like. Refers all his pain to the diaphragm, particularly to one point over tip of liver, at right side. Disposition to cough, but says diaphragm rises in lumps on making the attempt.—C.C.

Pulse fell so low from the cupping, that bleeding was not resorted to.

Evening.—Greatly relieved.

2d day.—A little bloody expectoration; some cough; pulse risen to 82, hard and wiry.

3d day.—Pulse 102, hard and bounding; not able to cough; expectoration of mucus and blood; bowels not yet opened.

V.S. ℥xvj.

4th.—Pulse intermittent; *râle muqueux* and *bruit de soufflet* of right lung.

C.C. Croton oil, ♏ij.

5th.—Pulse stronger and fuller; skin excessively hot; pain on breathing; increased cough and spitting of blood continue; unable to strain to pass his fæces; complains of spasmodic pains and "lumps," as he describes it, about the diaphragm. Cupping-glasses to the chest; breathing thereby relieved. The abstraction of four ounces of blood produced a great change in the pulse, reducing its volume, but increasing the number of pulsations. Pain in breast.

6th day, relieved; pulse full and more even; bowels not yet opened; pain in chest, and cough, less.

7th.—Sharp and severe general febrile attack; bloody expectoration, in a few days changing to puriform flakes; inspiration inaudible on left side; countenance languid and lowered; eyes sunk; lips pallid; breath fœtid; bowels at last opened.

8th.—Sense of weight in left lung, and on coughing he forces from the wound a quantity of white milky fluid mixed with air.

Hirudines, xxx. Tr. Digitalis, ♏x. every three hours.

9th.—Greatly relieved.

13th.—Expectorates a quantity of thick pus. He states that he feels the matter when he coughs and attempts to spit, coming from the wound into his throat. The air which he expels as he coughs has a fœtid odour; no blood is mingled with the expectoration.

24th day.—Cough and expectoration continue; but chest symptoms are otherwise much mitigated.

44th.—Cough continues, with night sweats and diarrhœa, and air escapes from the wound when he coughs. The expectoration gradually diminished, and by the end of the second month the wound was healed up, and the breathing became freer.

In the 4th month, he was invalided home, incapable of active exertion, and complaining of pain under the left nipple; could not lie on the wounded side; very little expectoration or cough remained; no night sweats; appetite good, and for some time previous had been recovering his strength.

In this case we see the suppuration from the wound unusually moderate,

while the expectoration of matter was both copious and long-continued.

Case of penetrating wound of thorax, without lesion of lung or suppurative disease in its structure, attended with copious expectoration of pus.

Benjamin Cresswell, æt. 27, struck by a musket-ball on the 16th of March, 1837, which entered near the middle of the spine of the right scapula, and passed in a transverse direction from shoulder to shoulder, on the left side fracturing the clavicle, the scapula slightly. It traversed the cavity of the thorax at its superior posterior portion, without injuring the lungs.

Progress. — First day expectorated blood; complained of no difficulty of breathing; pulse hurried, but soft.

3d day.—Oppression on breathing.

10th day.—Expectoration of blood only recurred once slightly; suffered from nearly constant pain and difficulty of breathing, the former referred occasionally to the back, but generally "*to the centre of the chest.*" Pulse varying from 100 to 116. Discharge from wounds considerable, fœtid; matter also collected over left clavicle.

15th.—Pulse 120, full; tongue pale, moist, and coated; bowels open; cough distressing; *expectoration of pus and mucus abundant;* discharge excessive; arterial action violent, and observable over face and neck at a considerable distance; pain neither great nor constant.

21st.—Little variation until the previous night, when delirium supervened; pulse 160, fluttering; does not complain of much pain; tongue dry and rough; some diarrhœa; great thirst.

22d.—Died.

Treatment. — Repeated bleedings; digitalis and salines.

Post-mortem.—Injury as described; right lung and its cavity did not seem implicated. On removing the lung of left side considerable adhesions were found on its posterior surface; about six ounces of sanio-purulent matter was found in the cavity, and a coagulum of blood at its upper surface. In the upper lobe a large tubercle was found, and in the lower lobe several smaller, and one large; also in the middle lobe, the posterior surface of which was gorged and hepatized. The right lung seemed healthy, with the exception of some little effusion and adhesion at its posterior surface. The liver and other viscera of the abdomen were healthy; the gall-bladder nearly empty.

From a consideration of the symptoms of this case, with the actual changes, we see that a copious purulent expectoration existed, without any suppurative disease in the lungs, although there might have been some connection established with the collection referred to. Here also pain is referred, not to the true site of injury or subsequent mischief, but to the *centre of chest*, confirming the observation already made on this point.

The irregular manifestation of suppurative action in these cases is thus clearly enough established. I have watched the progress of cases in which there was a purulent expectoration, and yet on examination after death the lungs have been found only more or less tuberculated, but presenting no trace of vomicæ or abscesses. In other cases we find that abscesses and vomicæ may exist in great number in the substance of one or both lungs, and yet not the slightest admixture of matter be detected in the expectoration. In Longson's case, an abstract of which I gave in a previous lecture, this state of things existed.

Or again, the walls of an abscess will perceptibly give way in the chest; much matter will be ejected by the mouth, and the rest in a continued discharge from the wound. This occurred, and was well marked, in the following case:—

Thos. Smith, æt. 18, wounded on the 16th of May, 1837, by a musket-ball, which entered at the back, and passed through the superior portion of the scapula, making its exit in front, through the clavicle.

On receiving the wound a quantity of blood gushed from his mouth, and continued in smaller quantity for several days. On the eighteenth day after his removal from Irun to San Sebastian he had great pain when he coughed, and occasional sense of suffocation. Respiration hurried; pulse quick and tremulous; discharge from wounds profuse. He continued in much the same state, expectorating pus, until the 70th day, when he felt something give way internally during the night, and immediately

coughed up a large quantity of pus, and pus escaped from the wound at the back.

The case was long protracted, and most probably either ended fatally in the country or soon after his return: the last portion of the notes seem, however, to have been mislaid.

While speaking of the suppurative action, it is further necessary to remark that a relative action is sometimes established between the discharge from the wound and the quantity of expectorated matter; these alternations, generally attended with well-marked constitutional effects, giving indications for treatment which may not be disregarded with safety to the patient. The following case puts these various points in a strong light. Time will not permit me to give more than very short abstracts, confining the attention as exclusively as possible to the features establishing certain principles. You will so understand these curtailed sketches of cases; viz. that many details are omitted, not that they are devoid of interest, or unfitted for instruction, but that they do not bear upon the particular point in question.

Case of alternating suppurative action between the lung and the wound.

Benjamin Britton, æt. 27; a blacksmith by trade; sanguineo-lymphatic temperament: wounded Oct. 1, 1836, by a musket-ball, which passed through the scapula above its spine, between the third and fourth ribs, and entered the cavity of the chest. A large portion of the scapula was comminuted, and removed. There was some difficulty of breathing, but he chiefly complained of severe pain about the stomach, unattended by sickness.

V.S. ℥xvj. Haust. Purg.

2d day.—Pain of stomach continued.

7th day.—Wound was granulating, and discharged.

9th.—Had a bad night. Pulse small and soft; wounds healthy. Complained of pain about right breast. Expectorated in small quantity sputa tinged with blood. Cough troublesome. Blister applied, and a mixture of oxymel scillæ. Mucilag. acaciæ and hyoscyamus ordered.

10th.—Much relieved; bloody sputa disappeared; breathing easy.

14th.—An incision made into a tumor, above the wound, of emphysematous character, yesterday, from which no pus escaped. To-day purulent matter discharged forcibly with air on every attempt to cough.

32d day.—The discharge ceased; the wound granulating. In the interval the matter had been most abundant, and the case had been complicated by an attack of erysipelas.

33d day.—He complained of wind in the bowels, which inconvenienced him, and on the succeeding day of great difficulty of breathing. Pulse full and quick; bowels open; cough severe. He was bled, blistered, &c.

34th day.—Relieved in some degree of his more violent symptoms. Breathing easier. Copious expectoration of purulent matter, which continued the two succeeding days; the febrile action subsiding.

39th day.—Patient felt better. Pulse more natural; tongue clean; cough diminished; expectoration less; breathing easy.

41st day.—An abscess presented internal to the wound on the back, and an opening made from which pus and air escaped. The wound recommenced discharging on the 43d day, and on the same it is noted that there was no expectoration.

45th day.—The opened abscess discharged freely; the wound scarcely at all.

49th day.—There was again diminution of discharge from the wounds, which were healing; the cough and expectoration returned. These two latter symptoms continued for a period. On the 57th day night sweats, and very profuse, supervened. Discharge, expectoration, and cough, diminished.

In the 5th month he was invalided, and the following note made:—"Has cough at night, and copious expectoration. Can only lie on the wounded side. No night sweats. Has occasional attacks of diarrhœa. Can make a deep inspiration without pain. Appetite good, and general health seems to be but slightly impaired."

This is about the best case of recovery I have witnessed from so serious an injury in the first instance, and attended by so many complicating circumstances.

The case of Smith leads us to another

class, viz. hæmorrhagic effects. A gush of hæmorrhage following the infliction of the wound, and continuing in lesser degree for many days, is not unusual. The case of Smith furnishes an example. A dangerous hæmorrhage of this kind may frequently be arrested by venesection, producing a rapid syncope. An example of this will be found in the case of Wolfe.

Internal hæmorrhage or extravasation of blood, occurring during the progress of the case, I have known give the rigors which generally mark the formation of matter.

Case of rigors, connected with internal hæmorrhage.

Richard Vincent, æt. 28. Wounded by a musket-ball, which entered immediately over the right clavicle, partially fracturing it, and subsequently the second and sixth ribs, in the latter of which it lay imbedded. Admitted with great difficulty in breathing, and complaining of much pain, particularly in the arm and fingers.

3d day.—He had passed a good night, felt easy, and had no symptoms indicating injury to the lungs or chest. From that day to the 12th, febrile action considerable, and difficulty of breathing. In the afternoon severe rigors supervened, and a presentiment that he would die. Pulse small and frequent. In a few hours death occurred.

Post-mortem.—On opening the thorax adhesions were found between the pleura costalis and pleura pulmonalis, particularly towards the sternum, on the detachment of which a large quantity of blood was found filling the right cavity. The axillary vessels were found injured by the passage of the ball, and the parietes of the thorax, with the pleura costalis, appeared of a dark livid colour —in a state approaching to mortification. The posterior lobe of the right lung was found lacerated; the substance of the whole collapsed, and of dark livid hue.

This case further shows a remarkable intermission of chest symptoms; alternate improvement and deterioration.

8.—An intermitting pulse is frequent in all these injuries. It is prominently marked in the case already given of O'Brien.

With respect to the intermission of chest symptoms, I have observed that they not only intermit in all urgent symptoms of injury to the chest, for twenty-four or forty-eight hours subsiding, but attacks of local inflammation will intermit with general febrile action, which is well shown also in the case just quoted.

9. Foreign bodies are more frequently lodged in the lungs than any other important viscus, and although great mischief generally ensues in the passage of the body as well as where it lodges, yet the exceptions to this are sufficiently numerous to deserve attention. The following case proves very indisputably that mischief does not necessarily ensue in the immediate neighbourhood of a foreign body even in 159 days.

Case of ball lodged in lungs for 159 *days, producing no alteration of structure in its immediate neighbourhood.*

David Cashin, æt. 42, was wounded Oct. 1 by a ball which entered about half an inch above the scapular end of the clavicle, and lodged. After death it was found to have passed near the angle of the first rib, fracturing it.

It is unnecessary to enter into any details of the symptoms for the present object: it was a protracted case, and the notes are proportionably voluminous. During the first three months he had all the usual chest symptoms; at that period diarrhœa supervened; vomiting occasionally; loose pieces of bone exfoliated; frequent pain of head and stomach; constant purging; great thirst; were the chief symptoms during the last two months. He died in the sixth month.

The post-mortem examination showed that the principal disease had been in the upper and lower lobes of the left lung; the whole of the lower was strongly adherent, and between it and the pleura a chain of continuous abscesses, containing about a quart of pus, had burrowed as far as and between the attachments of the diaphragm to the ribs. The superior and lower lobes were much disorganized, containing numerous vomicæ, and perfectly useless as far as the function of respiration was concerned. The ball was found in the base of the middle lobe of the left lung, not encysted, and the portion of lung immediately surrounding it showed no

trace of disease, but appeared perfectly healthy.

Under these different heads or classes may most of the varieties of effects and symptoms resulting from chest injuries be arranged; and it is important that they should be classed and borne in mind, if the surgeon would avoid errors in diagnosis and treatment of a most mischievous tendency.

The treatment of these injuries assumes nearly as many varieties as the injuries it is meant to remedy. Although a case quoted, where the man was shot in his bed in the hospital, the medical officer in charge of the division within a few feet of him, and where the most instant measures were adopted in vain to prevent fatal consequences, show how inadequate are all our means in many of these cases, yet many other examples of recovery here cited prove not less satisfactorily that much is in the surgeon's power, and that a great number of severe cases may ultimately be saved, when the treatment is judiciously modified and adapted to the peculiar states of the patient. These cases afford indications of the modes I have found beneficial. I have merely to add, that attention to easy position, very vigorous depletion when a hard and bounding pulse, or local pain, indicate febrile reaction or inflammation in the chest, cannot be too early adopted. On this often depends the result of the case.

But on this alone we must not depend; powerful adjuvantia are to be found in the treatment of these cases, as in complicated injuries of the head, by the proper use of which you are enabled to abstain from repeated general blood-letting, and husband the resources of your patient for the exhausting suppurative stage, an almost invariable sequence. These consist in a copious secretion from the mucous membrane of the intestinal canal, to be obtained by various means, but in which there is always some difficulty during the first six days; repeated purgatives and enemata being required. I think the best means of effecting this object seems to be one or two brisk doses of calomel and jalap, grs. v. and xx. On the second day repeated, and followed by a dose of castor oil. If no effect, gtt. ij. of ol. tig. on the third day, with alternating injections of castor oil and salts and senna in gruel.

In the second order as to value I hold digitalis, and minute doses of tartarized antimony, which, combined, both tend to lower the heart's action, and act upon the skin.

In the subsequent stages, when occasional attacks of inflammatory character set in on the chest, blisters, or local blood-letting, in combination with the above medicines, generally suffice. And even in the earlier stages, after venesection has been freely resorted to, it is often advisable to employ local blood-letting; and it will be found that occasionally four or six ounces drawn by the cupping-glasses, from the precise situation of the pain, will afford both a greater amount, and a more permanent degree of relief, than twice the quantity abstracted from the arm, and, of course, at half the expense to the system generally.

In the long-protracted and subsequent stages, when an abundant discharge--one or two pints of purulent matter—may be daily poured from the wounds, the patient must be carefully supported; nourishing diet, tonics, and even the stimulus of a few ounces of mellow wine, may be required. In this part of the treatment great judgment is required, not, on the one hand, to allow the patient to sink from exhaustion, nor, on the other, by food or stimulus, to induce frequent or severe attacks of inflammation.

I have preferred endeavouring to fix the chief varieties of these injuries—in their nature, progress, and symptoms—rather by a series of cases drawn from my own observations, than by mere definitions and directions; it has seemed to me that the more important facts would be less likely to escape the memory.

I have spoken only of injuries as affecting the lungs. I have met with but one case of injury to the heart not immediately fatal. A portion of the apex was carried away, and the liver also injured. He lived two days, protesting to the last, although educated as a medical man, that it was not a penetrating wound, clearly proving how little the evidence of the patient's impressions are worth as to the nature or extent of such injuries.

NOTES

OF A

DISSECTION OF A HUNCHBACK.

By Robert Hunter, M.D.
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[*For the London Medical Gazette.*]

As the female, the subject of the following case, was casually brought into the dissecting room, little of her history could be learned. We ascertained from those who had lived in her neighbourhood that she was about 80 years of age, and seemed to enjoy to the period of her death uninterrupted health. From the extraordinary deformity of the subject, and the rarity of such subjects in the dissecting room, I made a particular inspection, the details of which may not prove uninteresting or useless.

When laid upon the table the subject measured four feet six inches in length; the anterior part of the thorax projected more than usual, and somewhat more upon the left than right side; and the lower extremity of the ensiform cartilage was turned forwards and upwards so as to form a kind of hook, that still remained soft and cartilaginous*.

The hunch, which was confined to the right side of the back, evidently involved the ribs of that side; and from its size and the great deformity it imparted to the trunk generally, seemed to produce an elevation of the shoulders, and consequent apparent shortening of the neck. The chest was short, turned inwards at its lower margin, and its circumference at the inferior angles of the scapula measured thirty inches. No cicatrix could be found on any part of the back or chest. After noting the particulars connected with the external aspect of the body, I then opened the thoracic and abdominal cavities in the usual manner, and obtained a view of the thoracic and abdominal viscera: next I dissected the muscles, blood-vessels, and nerves of the whole subject, and more particularly those in immediate relationship with the spine; and lastly, I exposed completely the skeleton, and had thus an opportunity of ascertaining the condition of the skeleton generally, as well as of the individual bones. In the description I am now about to give I shall reverse this order, and describe the condition—1st, of the bones; 2d, of the muscles; 3d, of the blood-vessels; 4th, of the nerves; 5th, of the viscera.

1st. *Of the Bones.*—The most cursory inspection of the skeleton leads to the conclusion that the *origo mali* existed in the bones. The whole skeleton is obviously affected. The osseous texture is lighter, more transparent, and more brittle than in the natural state—circumstances dependent partly on a deficiency of the phosphate of lime, and partly upon the defective organization of the osseous texture; but all the bones are not affected to an equal degree. The bones of the head are least affected; next those of the limbs; and those of the trunk have undergone the greatest change. Of the last, the bones of the spine appear to have been primarily affected, and by their change of relative position necessarily imparted corresponding changes in the ribs and sternum. I shall therefore notice, in the first place, the state of the spine; and, secondly, that of the ribs.

In a well-formed spine the natural curvatures are the antero-posterior; no lateral deflection exists, or only in a very slight degree. In the spine to which we refer, however, three remarkable peculiarities exist—1st, the antero-posterior curvatures are much greater than natural; 2d, two lateral curvatures exist, one in the costal region, and another in the opposite direction, in the lumbar; and 3d, a twisted state of the spine, arising from a change in the relative position of the vertebræ.

The most remarkable peculiarities are the lateral curvatures. The deflection from the mesial line commences at the first dorsal vertebra, and proceeds directly to the right side through the 2d, 3d, 4th, 5th, 6th, 7th, and 8th vertebræ. It then turns at a very acute angle, and proceeds almost as directly to the left side, through the 9th, 10th, 11th, and 12th dorsal, and 1st, 2d, 3d, 4th, and 5th lumbar, where it again turns, and by the medium of a 6th lumbar vertebra, reaches the mesial line at the top of the sacrum.

Besides the great extent of the lateral curvatures which the spine thus presents, an extraordinary twisted or spiral state of the spine exists, which is

* In the skeleton which has been preserved this does not appear, as the cartilaginous part of the ensiform appendix has dropped off, from the maceration and cleaning to which the bone has been subjected.

worthy of particular observation. This seems to arise from the relative change of position which the vertebræ have undergone, by which the anterior aspect of the bodies of the vertebræ has been made, in succession, to veer from the mesial line till they face fairly to the right side, almost to the back, and then as gradually veer in the opposite direction till they face the left side. From the rotation of the vertebræ thus upon their axes, the ribs are necessarily much displaced, as well as changed in form, and the displacement and deformity are different on the two sides of the body. On the right side, the ribs, generally speaking, are more curved than natural, and some of them are made to bend round the bodies of those vertebræ that form the principal part of the hunch. The ribs on the left side are straighter and more slender than natural, and as they are connected to the spine at the concavity of the lateral curvature, they appear to be huddled together; and, what is more remarkable still, from the heads to their angles they are bent backwards, or in the opposite direction from the natural state, and from their angles to the cartilaginous extremities they are curved greatly from above downwards. The pelvis is also deformed, but not to any great degree. The horizontal ramus of the pubes, on the left side, is straighter or less arched than usual, and the two opposite sides of the brim or inlet are consequently unequal; but the deformity is so small that it attracted no attention till the bones were fairly exposed. The sacrum was then found to be broad and flat, and to form a slight angular projection at the junction of the fourth and fifth sacral vertebræ; the salient part of the angle being turned backwards. So much, then, for the different parts of the skeleton.

The most remarkable peculiarity appertaining to the whole skeleton is its extreme lightness; it weighs only 4½ lbs. To ascertain how far this falls short of the average weight, I weighed six other adult skeletons in my possession, and by the kindness of Dr. Marshall was enabled to obtain the weights of all those (nine in number) in the Anatomical Museum of the College, the particulars of which are indicated in the following table:—

Table shewing the respective Weights of Fifteen Skeletons.

Male.	Weight.
1. Above ordinary size	12 lbs.
2. Middle size	9½
3. Do. (all the bones exostosed)	10
4. Largest size	15
5. Do. do.	14
6. Do. do.	13
7. Middle do	12
8. Do. do.	11
9. Do. do.	11
Average nearly 13 lbs.	

Female.	Weight.
1. Above ordinary size	10½ lbs.
2. Middle do	8
3. Do. do.	9
4. Do. do.	8½
5. Do. do.	8
6. Below middle do	7½
Average nearly 8⅔ lbs.	

The above averages can only be viewed as approximations to the truth*. It is probable that the average for the males is high, and that for the females rather low. Be this as it may, it is obvious that our deformed skeleton is only about half the weight of the ordinary skeleton; and we may presume that a relationship exists between the cause of this deficiency of weight and the deformity*.

* By the kindness of Mr. James Douglas, lecturer on anatomy, College Street Medical School, I have been enabled to add to the above table the weight of two skeletons in his possession, the one a male, which weighs 12lbs., and the other a female, which weighs 11lbs., which reduces a little our average weight of the males, and increases that of the females.

* By an additional act of liberality and kindness on the part of Dr. Marshall, the able demonstrator of anatomy to the College, and father of practical anatomy in Glasgow, I have been enabled to add to the above list the weight of two hunchback skeletons, and in which a similar state of the osseous system exists to that which forms the subject of the present paper. The one happens fortunately to be that of a male, and the other that of a female. The male skeleton was found by Dr. Marshall to weigh 5lbs., and the female 4lbs., so that the skeletons of the three hunchbacks — one male and two females — weigh 13½lbs. and the average weight is 4½lbs.

2d. *Of the Muscles.*—The muscles of the head and limbs were normal. The limbs, indeed, were peculiarly well formed. The muscles of the trunk were differently circumstanced. Those of the back were examined with great care. The superficial and broad muscles of the region, viz. the trapezii, latissimi dorsi, rhomboidei, serrati postici superiores and inferiores, were all unusually massy, resembling, in this respect, the muscles of a male subject. The long muscles that lie in the vertebral groove, immediately under the broad muscles, were variously affected. Those attached to the head were well developed, particularly the splenii, complexi, and trachelo-mastoidei. Those stretching along the lumbar and dorsal vertebræ, viz. the sacro-lumbales, longissimi dorsi, spinales dorsi, and multifidi spinæ, were abnormal. They followed the curvatures of the spine, and uniformly presented an atrophied and degenerated condition where they lay upon a concave part of the curved spine, and a red, fibrous, and natural appearance at every convex part of the deformity. The left intercostal muscles possessed much of their natural structure. The right intercostal muscles in many places had degenerated into a fatty matter—a circumstance peculiarly marked near the angles of the ribs in the 5th and 6th intercostal spaces, where the hunch is most protuberant, and the ribs least moveable.

3d. *Of the Blood-vessels.*—The blood-vessels of the head and limbs were normal in size, course, and distribution; and in the trunk the only remarkable deviation from the natural appearance was found in the aorta: this great vessel followed accurately the lateral curvatures of the spine. From lying upon the left side of the vertebral column in the thorax, and corresponding consequently with the concavity of the spinal curvature, the angle which the vessel forms is more acute than that formed by the spine. It is probable, however, that this deviation from the natural state of the vessel had no material effect upon the circulation of the blood.

4th. *Of the Nerves.*—Notwithstanding the extraordinary curvatures of the spine, neither spinal marrow nor nerves appear to have been in the slightest degree compressed or affected. The foramina conjugalia were of the usual size, even upon the concave side of the lateral curvature, and a free egress was given consequently to the spinal nerves; and the nerves in the other parts of the body had, as far as observation could reach, the natural structure.

5th. *Of the Viscera.*—The thoracic cavity was much shortened in the longitudinal direction, and increased apparently to a corresponding degree in the antero-posterior and transverse diameters. The heart was large but not hypertrophied, and its valvular apparatus normal. The lungs were sound, crepitating when pressed, at every point: no adhesions, but the left lung considerably larger than the right.

The abdominal viscera were free of disease. The stomach, intestines, and peritoneal appendages, in particular, remarkably free of the least vestige of morbid structure. The glandular organs, particularly the spleen, pancreas, and kidneys, also normal; but the form of the liver was considerably affected. The lower margin of the organ was bent back towards the spine, which imparted a curious rolled-up appearance to the viscus, and which has obviously been produced by the margin of the thorax jutting inwards. The liver otherwise seemed to be of the natural structure. The gall-bladder was filled with well-conditioned bile, and the ducts were patent, and of the usual size. The pressure to which the liver thus appears to have been subjected, does not seem to have affected in the slightest degree its organization.

From the above case the following conclusions may be drawn:—

1st. That the curvatures of the spine, which exist in hunchback, arise without ulceration or solution of continuity in the osseous or cartilaginous parts of the vertebral column.

2d. That in hunchback the bones of the spine are both deflected from the mesial line and rotated on their axes, and the degree of rotation in any vertebra is proportional to the degree of its deflection from the mesial line.

3d. That the deformities in other bones of the trunk arise secondarily, or from the spinal curvatures.

4th. That in hunchback the bones of the skeleton generally are remarkable for lightness and transparency—peculiarities obviously dependent upon a deficiency of calcareous matter; and

5th. That the morbid condition of the

bones on which hunchback depends, is not incompatible with longevity.

It is inconsistent with the scope of the present paper to enter into the treatment of hunchback; suffice it, however, to say, that the principles of treatment ought to have a reference, 1st, to the condition of the system on which the lightness, transparency, and, it may be, other morbid conditions of the bones, depend; and, 2d, to the means, whether mechanical or otherwise, by which any tendency to spinal deformity may be contracted, and the natural form and healthy state of the spine promoted.

Among the constitutional means the following may be mentioned: pure air, nourishing food, particularly a milk diet, from the phosphate of lime which the milk contains, tonic medicines, the cold bath, friction over the whole surface of the body, passive exercise, and active exercise, at first in a moderate degree.

The local means ought to be entirely of a mechanical kind. The mechanical means should simply have a reference to the bearing off the superincumbent weight of the head and upper extremities, when the vertical position requires to be maintained beyond a certain period. Attention ought likewise to be paid to the position of the spine in the recumbent posture, and still more particularly to the regular daily training of the muscles of the spine, and to the training of the muscles equally on both sides of the spine.

33, North Hanover Street, Glasgow.

TWO CASES OF ADHERENT PLACENTA,

FOLLOWED BY PHLEGMASIA DOLENS.

To the Editor of the Medical Gazette.

Sir,

If you think the accompanying cases of sufficient interest, you will oblige me by giving them a place in the Gazette.

I am, sir,

Your obedient servant,

John Chatto.

Leigh Street, Aug. 23, 1839.

Case I.—*Very tedious labour—Adherent placenta—Irritative fever—Hypercatharsis—Phlegmasia dolens—Great debility—Recovery.*

Mrs. L., æt. 28, a delicate woman, of a nervous temperament. She has never had a child, but miscarried about two years ago.

Dec. 2d, 1836.—I was sent for yesterday, when I found she had had pains, of more or less severity, for several hours, and that the os uteri, which was as thin as the thinnest paper, was expanded to the size of a crown-piece, and tightly stretched over the vertex. During the whole of to-day the pains had been of a varying character, and the dilatation hardly at all advanced. My patient being very much fatigued, and very heavy for sleep, which, however, was prevented by the recurrence of the pains, which were yet inefficient for the purposes of parturition, I gave her an opiate.

3d.—Much refreshed and invigorated by sound sleep, and the pains, although coming on at longer intervals, are more effective. After a few hours, however, the pains again relapsed into their former state of inefficiency. In the evening very little additional dilatation had occurred, and so thin was the undilated part of the cervix uteri, that one could with difficulty believe any thing was there interposed between the finger and the child's head.

4th.—After a cessation of many hours the pains came on this forenoon with vigour; a little liquor amnii was now forced down; and the patient soon after becoming sick, complete dilatation followed at no distant period, immediately after which the membranes ruptured. Again the pains became perfectly inefficient for the completion of labour, and I gave her a dose of the ergot, which I had been deterred from administering before by the rigidity of the external parts, (now considerably abated), and by the tight manner in which the presentation was grasped by the very thin os uteri. The pains, though slow, gradually increased in severity, and a live child was delivered, with but little distension of the perineum, on the morning of the 5th, the mother being very much exhausted.

Finding, from external examination, the uterus disposed to contract, and that I could feel the insertion of the funis, I proceeded, shortly after the birth of the child, to the removal of the placenta; but, finding it resist any efforts I deemed it prudent to make, and which caused great pain, I desisted from any attempts for two or three hours, giving her at intervals some ergot, which, however,

excited no pain whatever. On again examining, I found a small portion of placenta in the vagina, but the great bulk retained in the uterus, whence it could not be dislodged. I now passed my hand into the cavity of the uterus, and discovered the great mass of the placenta adhering to the fundus. So firm was its attachment, that I soon found that any thing like pulling at it would only be attended with its partial removal, and I therefore carefully and slowly peeled it from its attachment, causing thereby excessive pain to my unfortunate patient. In some parts it came off very smoothly, in others it left asperities; I believe, however, that I succeeded in detaching the whole, although, in bringing it through the vagina, some portions were broken off, which, however, were easily removed afterwards. Although, prior to the commencement of the operation, I had room enough to move my hand freely in the cavity of the uterus, yet no sooner had I completed the detachment than the uterus contracted powerfully upon my hand, and expelled both it and the placenta which it grasped. No hæmorrhage whatever attended the case. The patient was nearly exhausted, almost senseless at intervals. Her pulse was hardly to be felt; but by the continued use of stimuli she had, in two or three hours, almost entirely recovered from this distressing and alarming state.

6th.—Feels comfortable, although very feeble. No after-pain. Discharge ordinary. Slight uterine tenderness. Slept. Pulse 120.

9th.—Up to this morning, although her pulse continued at 120 (small), and the discharge had become very fœtid, yet, upon the whole, she seemed progressing. But this evening I was sent for to her again, and never had I seen, except in puerperal fever, so great a change in the countenance as I found to have taken place in her since the short time I had seen her. It was collapsed, and livid marks surrounded the eyes. Alternating chills and heats, with a wiry pulse running up to 130 or 140. Intense thirst. Tongue streaked with brown, and respiration much hurried. On examination, I found great tenderness of lower part of the abdomen, and especially over the left uterine region.

Hirud. xij. et Cataplasm. Lini.

10th.—Although the leeches did not bleed much, yet the pain was materially relieved, and the pulse reduced to 120.

Hirud. vj. Cont. Catapl. Lini. Cap. Calomel. gr. ij.; Opii, gr. ¼, 4tis horis.

These leeches bled profusely, so that she became very faint. All pain and tenderness effectually relieved.

14th.—She had been going on very well until yesterday. The pain had never recurred. The pulse sometimes was but 110, very small, and both it and other symptoms put on so plainly the marks of true debility, that I ventured to give her a little jelly and beer, for which she had a great craving. Yesterday, however, she was seized with a violent hypercatharsis, and although that has, by the use of opiates, subsided to-day, she is much reduced by it. It probably arose from the calomel, which had been continued until yesterday, although only in one-grain doses, and guarded by opium.

18th.—Had been again improving, and even gaining strength (the pulse, however, never slower than 110, and generally 120), when, after a day passed with an indescribable malaise, she was attacked yesterday evening with excessive pain, occurring at intervals, in different parts of the right lower extremity. When I saw her this morning she had the appearance of one suffering from exhaustion. She was much tormented by paroxysms of heat and sweating, unpreceded by any chills; pulse very rapid; tongue quite clean. On examination I found excessive tenderness in the groin and calf of the leg, so that she shrieked on the slightest touch; nay, sometimes even the sheet touching her was insupportable. The pains, and tenderness especially, were observed in the course of the vessels; the former also striking around the pelvis.

Hirudin. x. inguin. Embroc. Anodyn.

In the evening I found she was so much easier after applying the embrocation, that she had not employed the leeches. Could bear pressure much better in the groin.

Catapl. Lini inguini. Pulv. Ip. C. gr. x. h. s. s.

I should have observed, that with this attack there was no other symptom of direct uterine irritation: thus no bearing down pain, and no increase of the discharge, which had much diminished

in fœtor and quantity for a long time past.

19th. — Very little improvement; pulse 120, full, and soft; tenderness yet considerable; no tumefaction of the limb; her countenance much dejected.

Hirud. viij. Hydr. c. Cretâ, Pulv. Ipecac. Comp. aa. gr. iij. 4tis horis.

21st.—Dr. Lee favoured me with his opinion of the case. Her countenance still continued bad, and her pulse mounted up to from 120 to 140, although, after another application of leeches, its fulness entirely disappeared, and it resumed the small character it possessed prior to the attack. Now, as throughout the case, except just at the commencement, her tongue is quite clean, and no irritability of stomach has manifested itself. At intervals she still has burning heat and profuse sweating. The tenderness in the groin is still very considerable, extending in the course of the femoral vein, which may be traced as a firm cord, and accompanied by considerable though not excessive tension of the limb. The leeches had been repeated, and the mild mercurials continued. Dr. Lee considered, from the rapidity of the pulse, which had persisted throughout this case (it has seldom been less than 120, often much more), that from the commencement there had been going on a degree of chronic inflammation about the cervix uteri; that latterly the veins of the uterus had participated in the inflammation, which was now extending by the femoral vein, producing genuine phlegmasia dolens. He recommended a continuation of mild mercurials until the mouth became affected, and the occasional application of leeches; but observing the very reduced state of the patient, he deemed great caution necessary in the employment of further depletion, and that even before very long tonics or stimuli might be required.

31st.—The case has required from time to time a few leeches, which, although they always increased present suffering, were always attended with ultimate benefit. Pain and tenderness in groin and extremity much relieved, and swelling, which had increased, subsiding. Pulse reduced to 100; but it has become so exceedingly feeble that I have latterly urged upon her more nourishment, to which she has a great objection, and ordered her quinine. The ung. hydr. fort. has been substituted for the hydrarg. c. cretâ, as the latter produced considerable purging. She states she has a discharge identical with the menses when quite natural.

Jan. 2d.—Yesterday and to-day she complained of pains in the left extremity, similar to those which had affected the right; and on examination of the inguinal region, and course of femoral vessels, tenderness and knotted cords are discovered. Her countenance, which had become cheerful, now assumed the same anxious appearance as heretofore; the pulse becoming much fuller, rose to 130. Leeches were applied yesterday, but no relief followed; on the contrary, the pain increased, and the tenderness became diffused over the whole pubic region.

Rep. Hir. ij.

3d.—These leeches by error were permitted to bleed profusely; pulse reduced to a mere thread; pain and tenderness, though relieved, still there. I allowed her some wine and beer, continuing the inunction.

6th.—Has suffered much from debility since last report, but had began to rally until yesterday. Tenderness also diminished, but existing; as also does considerable swelling of the limb. As the unction produced no effect upon her mouth, I substituted for it gr. iij. calomel, with half a grain of opium, under the use of which she became easier, and her pulse slower (110); but she had only taken three doses when, yesterday, a violent hypercatharsis ensued again, reducing her to the last extremity. Yet, so far from the local malady being increased, the pain and tenderness became most remarkably diminished, as did the tumefaction of the limb.

9th.—Her debility is very great; indeed, from the thready state of her pulse, and her great emaciation, she seems almost sinking, slipping down in the bed like a patient in the last stage of fever. Her disgust for all articles of nourishment is so great, that, although it has been explained her safety in some measure depends upon doing so, she can hardly be persuaded to take wine, &c. The purging has been arrested by laudanum.

Feb. 9th.—Although at first slowly, she has upon the whole continued progressing since last report, so that now her strength is materially improved.

Her limbs, though no longer swollen, are stiff, and often very painful about the joints, requiring anodyne embrocations; still there are hard cords in the course of the veins; pulse nearly 100, and small; the catamenia established.

Jan. 14th, 1839. — Having passed through a pregnancy with very little inconvenience, she was delivered to-day after a very easy labour, the placenta being removed with the greatest facility. Her health has long been firmly re-established.

I have omitted to mention in the above detail, that the secretion of milk, which had at first disappeared, was reproduced in her convalescence, which, indeed, she delayed by a rash attempt to suckle her child. I should also observe, that the most marked relief to immediate suffering was derived by the application to the affected extremity of warm linseed-meal poultices; indeed, whenever the slightest tenderness manifested itself, the part was enveloped in one of these, often with complete relief; and long after all pain subsided, the use of this remedy was attended with great comfort.

Case II.—*Very tedious labour — Placenta adherent—Extraction delayed —Phlegmasia dolens—Death—Post-mortem appearances.*

Mrs. W., a delicate and nervous woman, with a very sallow complexion, æt. 30; first child. She suffered much from pain during the latter months of her pregnancy.

May 3d, 1839.—She was delivered to-day of a large, dead, putrid child. Her labour has been excessively tedious, having lasted, with intervals of ease, two or three days; it was totally uninfluenced by the secale cornutum. She felt after delivery very faint and exhausted, although no hæmorrhage whatever occurred. On proceeding to pass my hand along the funis, to ascertain the situation of the placenta, it broke off at no great distance from its point of insertion, without the slightest force being employed on my part. Finding there was no hæmorrhage, that there was considerable lessening of the size of the uterus, although the same want of pain continued which had characterized the previous stages of labour, and seeing her state of extreme exhaustion, I deemed it better to allow her some repose before I attempted the removal of the placenta, which, owing to the absence of the funis, and the possibly diseased state of itself, might probably be attended with more than ordinary difficulty: I could feel a small portion in the vagina. She had then several hours of refreshing sleep, which invigorated her considerably, although her pulse was yet small and quick. I now endeavoured to remove the placenta, but found that, although I could grasp a small portion, the main body of its substance remained *in utero*, and that the cervix firmly grasped it. The attempt at dilating this gave her great pain, as did also the dilatation of the vagina. I succeeded in getting hold of a large portion, but not sufficient to justify attempts at traction by it. She suffered much pain, and was frequently very faint. After a while Dr. Lee saw her, and removed the placenta, which was partially adherent. The operation was attended with agonizing pain, both as regards the dilatation of the cervix and the peeling off the placenta, and was followed by great faintings, requiring the free use of stimuli: this removal was effected about twenty hours after the birth of the child. On examination of the placenta it was found not to be entire, and of a much less firm texture than natural. A day or two after, a remaining large portion was discharged from the vagina.

7th.—Has had little or no fever; no abdominal tenderness, although some considerable after-pain. Her pulse has continued quick and small (120), and her countenance very ghastly. The discharge from the vagina intolerably fœtid.

14th.—Altogether has gone on well, although complaining at intervals of severe pains, and of various anomalous and transitory sensations, referrible in part to her nervous temperament, *e. g.* aphonia, dysphagia, &c. Discharge subsiding, and fœtor diminishing; pulse yet very quick, and countenance bad.

20th. — Improving in strength and appetite; no abdominal pain; pulse varying between 100 and 120; all fœtor of discharge gone; countenance better.

24th.—Had been going on pretty well until yesterday, so that, although her pulse was yet very quick, her appetite, strength, countenance, and spirits, were much improved. But during yesterday she had much pain in the right

lower extremity; and to-day, on examination, I find great tenderness in groin, and in course of the vessels, as far as the ham, while the limb is considerably swollen. Her pulse now mounts up to 130, very small; countenance very sallow and haggard; great heats and sweats; utter want of sleep.

Hirudin. vj. inguin. Cat. Lin. Pil. Cal. c. Ant. Tart. et Opio, h. s. s.

27th.—By the cautious use of leeches, and continuance of mild doses of calomel and opium, she seems easier to-day. Pulse is slower; swelling less, though the limb is double the size of the other. The tumefaction is chiefly situated between the knee and ankle, where it pits upon pressure; tenderness in groin, though abated, continues, and there is considerable fulness of that part compared with the opposite side, while hard cords can be traced into the thigh, and all the superficial veins of the limb are distended.

Rep. Hirudin.

29th.—Pulse 140; respiration hurried; much sweating; no tenderness now in groin, or pain in limb, which, however, continues still as swollen, and very hot. The calomel and opium has been omitted, as it purges her.

Dr. Lee saw her yesterday, and observing her exhausted state and feeble pulse, he recommended that any further depletion should be had recourse to only in the most cautious manner, and suggested that stimuli might be speedily required.

June 1st.—Pulse, which had a day or two ago much diminished in frequency, yesterday became more rapid than ever (130 to 140.) Her debility is excessive, and sweating profuse; her tongue has continued tolerably clean, and very little irritability of stomach present. There is little pain now in the extremity, and the swelling is diminished considerably. The left leg has now, however, become a little swollen towards the ankle, and there is slight tenderness of the groin. The last day or two she has taken beer and wine.

3d. — With very little increase of swelling in the left extremity, and hardly any tenderness in the groin, she gradually became weaker and weaker, and sank to-day completely exhausted, having refused nourishment or stimuli for some time past in any but inefficient quantities.

Examination of the body fifteen hours after death.—This being made under the surveillance of some relations, the removal of the parts for leisurely and complete examination could not be effected. The time being fully occupied in examining the state of the uterus, and the abdominal venous system, much attention was not paid to the condition of the other organs, which, however, were inordinately pale. The liver and spleen softened in texture, and the latter much increased in size. No marks of peritoneal inflammation existed. On tracing up the vena cava inferior from the brim of the pelvis, I found its cavity contained some coagula, which, however, only partially filled it, were not at all firm, and were easily removed. On examining the renal vein of the left side, it was found in a very diseased state; its coats much thickened; its cavity blocked up with firm coagula, upon the removal of which the inner membrane was found abraded; the cellular tissue in which it lay imbedded was also much thickened; and behind it was a considerable collection of purulent matter, which infiltrated down towards the pelvis, among the cellular tissue behind the vena cava, and in front of the psoas muscle. The right renal vein was also firmly blocked up; but on removing the coagula, the appearance of the vein was nearly natural. On cutting into the kidneys they were found excessively pale, and containing a serous fluid. Tracing the vena cava backwards towards the cavity of the pelvis and the thigh, I found the pelvic and femoral veins completely plugged in the same manner as the renal, observing here, also, that the coagula were much firmer, and the lining membrane of the veins seen to be much more disorganized on the left than on the right side; indeed, on the latter, after the coagula were removed, if we except some distension, the veins were natural enough; so, too, in regard to the uterine veins, while they were simply plugged on the right side, they were thickened in texture, and their lining membrane discoloured and abraded on the left. The uterus was at least double its natural size, and very flabby in its texture. On opening into its cavity, I found the marks where the placenta had adhered at the fundus, slight dark shreds still remaining, which seemed identified with the mucous membrane,

or rather not to be removed without tearing it. Over a circular space, more than equal to a crown-piece, around the site of the adhesion, the mucous membrane was discoloured of a very deep tint; but on gently scraping this with the back of the scalpel, the colour disappeared, and the mucous membrane, of a natural appearance, remained; and so it continued to within half an inch of the os uteri; but the whole circumference of the os was almost of a black colour, irregularly ulcerated, and in some parts seemed almost gangrenous. Here (*i. e.* for half an inch in breadth around the whole circumference of the os) the black colour was not removeable, and the mucous membrane was ragged and disorganized.

I perceive Dr. Lee refers to this case (LVI.) in his valuable summary of cases of retained placenta, MEDICAL GAZETTE, page 751. Although, at the time, I believed the state of the patient permitted, or rather required, delay, yet I now think it would have been much better to have endeavoured to remove the placenta shortly after the birth of the child.

It may reasonably be supposed that the inflammatory action which produced the ulceration of the cervix uteri (which I may observe was attended with no local symptom referrible to the uterus, although the persisting quickness of the pulse throughout the case led to the suspicion of its existence), may have been induced by the reiterated attempts to dilate the cervix.

IDIOPATHIC TETANUS.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem this case worthy a place in your valuable journal, it is very much at your service, and its insertion will oblige

Your obedient servant,

HENRY BULLOCK.

Uxbridge, Sept. 9, 1839.

James Clements, aged 26, a man of good general health, although addicted to spirit-drinking, states that a fortnight since, while engaged in his ordinary avocation, that of a brick-maker, he fell over a wheel-barrow, and injured his back, which was somewhat inflexible during the two subsequent days; but this he attributed rather to the alternations of heat and cold to which he was exposed than to the accident. For the last two days, having followed his occupation as usual, he has had difficulty in swallowing, and stiffness of the neck and limbs. He is now, August 3d, labouring under the most unequivocal symptoms of tetanus, for the countenance is strongly indicative of the disease; he has great difficulty in deglutition, his jaw being nearly fixed; intense rigidity of the whole muscular system, except of the arms, which are only thus affected during the existence of the paroxysms, which recur with more or less intensity every two minutes, and often more frequently, continuing about half that period. There is complete opisthotonos, the body resting upon the occiput and heels. He complains of a constant and severe pain, extending from the ensiform cartilage to the spine opposite; the perspiration profuse; nights restless, sleeping occasionally for five minutes at the utmost; pulse about 84, and irregular. The bowels had been relieved the previous day by an aperient. There is no pain upon pressure over any part of the spinal column. I now prescribed—

Hydrarg. Chlorid., Pulv. Scammon. aa. gr. v. statim sum. Enema Tabaci (℥ss. ad Oss.) statim injiciend.

The usual depressing effects of this last remedy were produced in twenty minutes, and lasted two hours. The prostration was excessive, for his pulse could scarcely be detected; even respiration at one time was hardly perceptible; nausea and vomiting distressing. Ammonia and other stimuli were resorted to until he began to rally. By these means the bowels were unloaded of an immense quantity of dark scybalous fæces. During the first six hours after the employment of the tobacco, the spasm was very materially abated both in severity and frequency.

Enema Tabaci nocte maneque repetant. Emp. Cantharid. reg. spin. lumb. et dors. Extract. Colocynth. Co. gr. x. ft. pil. ij. o. m.

℞ Quinæ Disulph. gr. ij.; Acid. Sulph. dil. ♏iij. Sp. Æth. Sulph. Co. ℥ss.; Mist. Camph. ℥iss. 2da q. hora. Brandy, arrow-root, and strong beef-tea.

Without burdening the case with the prolixity of a daily report, it may be

sufficient to state, that the amendment, though progressive, was almost imperceptible at each visit, the original treatment being adhered to with slight variation as the circumstances of the case seemed to demand: the same formidable collapse followed the administration of the tobacco, and a similar degree of relief. At the expiration of the fifth day his condition was so far improved that the paroxysms supervened at intervals of twenty minutes, but not with that severity and regularity of accession as formerly. There was less general rigidity, the trismus, however, remaining much the same. The aspect of his countenance was considerably better; the perspirations mitigated; and during the night he frequently slept for two hours without waking; deglutition performed more easily. The tobacco enemata to be discontinued; otherwise the same treatment as before, with the daily administration of aperients consisting of calomel and colocynth. (Emp. Cantharid. nuchæ, as he complained of headache.)

By the 13th day he was so far convalescent that he experienced a paroxysm only about once an hour, which was very slight and transitory: his jaw could now be separated nearly an inch, there being very little rigidity of muscle, with the exception of those of the abdomen, and he expressed himself as being much better. The quinine, &c. continued at more distant intervals, with brandy, meat, and beer.

20th day. — Declares himself quite well, not having been conscious of a spasm for some days, and on the 25th day from the time I first saw him he walked a distance of upwards of six miles.

I have been induced to trouble you with a narration of this case, as attended by my partner, Mr. James, and myself, because it serves to establish, as far as a single case can, at least, the efficacy of a plan of treatment recently recommended by a very high authority, Mr. Travers *. I have styled it *idiopathic* tetanus only because its immediate cause was unknown. I am disposed, however, to conjecture that the medulla spinalis or its membranes contracted some lesion in the fall, and that the disease arose from that injury. I think so, especially from the lapse of time between the accident and the appearance of the tetanic symptoms. Under this impression I blistered the spinal column, yet without any marked benefit fairly referable to this remedy.

* On Constitutional Irritation, vol. ii.

ANOMALOUS ERUPTIVE DISEASE.

To the Editor of the Medical Gazette.

SIR,

DURING the months of July and August there has been prevalent in this neighbourhood, and in the present month a few cases remain, of an eruptive disease presenting some remarkable features, for which it appears to me to be worthy of the attention of your readers, among whom some may perchance be able to contribute respecting it additional facts. Its peculiarity consists in its combining the forms of three diseases, which we are accustomed to regard as specifically different and distinct, namely, scarlatina, variola, and varicella, and the symptoms of each have occurred in different cases, in various order and severity.

In many children it has first shewn itself as scarlatina, the tonsils being inflamed, the papilla or the tongue enlarged, and the red blush on the skin having fairly that character; but after two days, more or less, the efflorescence has disappeared, and vesicles, of various sizes, some precisely similar to varicella, and in many cases the crop has been very abundant; in other cases larger vesicles more thinly scattered.

Immediately these have ceased to arise, a new efflorescence, of a purplish hue, in irregular patches, slightly elevated, with irregular edges, has arisen, so extremely like measles that any one seeing the patient under it, for the first time, would certainly pronounce it at a glance to be that disease. When these symptoms have been successive, as I have described them, the case has *appeared* as if the three diseases had occurred together, and each had struggled into existence in spite of the others; this order has been most frequent, but the period occupied by the three successive forms has been various; in some three days have shewn them all, in others it has occupied six, in others nine days. In other cases a different arrangement, and a more perplexing admixture of the three forms have rendered it impossible to give a satisfactory diagnosis.

In several instances, it is worthy of remark, the children had before gone through at distinct times both measles and scarlatina.

In the matter of treatment I have nothing to say, save that I have seen no fatal cases. The sequelæ have in different instances looked like the results of different diseases, some children having had the pains in the wrists and ankles, with a dropsical tendency; others troublesome mucous discharges and remittent fever.

But I cannot say that these have followed, with the regularity I expected, any severity or prominence of the forms of disease, to which they are usually linked.—I am, sir,

Your obedient servant,
JOHN GARDNER.

49, Great Portland Street,
Sept. 9, 1839.

ON THE EFFECTS
OF
COLOURED EMETINE.

By Dr Domeier.

[*For the London Medical Gazette.*]

I believe that emetine, whether coloured or pure, has not been very frequently administered in this country. Of the few trials which may have been made with it, hardly any appear to have been registered; indeed, I do not recollect reading a single one, either in medical journals, or elsewhere. Perhaps this may be a sufficient excuse for publishing the following scanty notes of seven cases, where I gave coloured emetine, a few years ago, when I was physician to the Westminster General Dispensary. To the best of my recollection, I saw the medicine taken in every instance. This is a point of consequence, as it must be confessed that among the many uncertainties of the practice of physic, we must number the doubt whether the medicine which is prescribed is swallowed.

Case I.—Feb. 22d, 1836. Charles Healing, æt. 40, has long laboured under cough, for which he has taken a variety of remedies with little benefit. Gave him half a grain of coloured emetine.

Feb. 24th.—No vomiting has been produced by the emetine.

29th.—I gave him two grains of coloured emetine, as he was feverish, and complained of general pains.

March 1st.—Very slight vomiting from the emetine. Feels considerable nausea to-day.

Case II.—Feb. 23d, 1836. Mrs. Magarvie, of 11, Little White Lion Street, has long laboured under ascites and cough, but is better. She was much benefited a short time ago by an emetic composed of tartarized antimony and ipecacuanha. I gave her a grain of coloured emetine.

Feb. 24th.—The emetine produced three fits of vomiting, in which bile, &c. were brought up; and she is better.

Case III.—Feb. 24th, 1836. Mrs. Hubbard, æt. 19, feels a cynanche tonsillaris coming on, to which she is subject. I gave her a grain of coloured emetine.

Feb. 25th.—The medicine produced one fit of vomiting, and the patient is better.

27th.—As she felt as ill as ever, I gave her another grain.

28th.—No vomiting from emetine.

Case IV.—Feb. 24th, 1836. Mrs. Pratt, æt. 74, complains of cough, occasional sickness, and rising of bile. Gave her a grain of coloured emetine.

Feb. 26th.—Coughs less, and is better in other respects. Had several fits of vomiting. Gave her another grain.

29th.—Reports that she vomited a little.

Case V.—Feb. 25th, 1836. Louisa Symes, æt. 16, complains of rheumatism. Is much confined to the house, and seems of a plethoric habit. Gave her a grain of coloured emetine.

26th.—The medicine produced neither vomiting nor nausea, but the patient feels better. Gave her two grains of tartarized antimony.

27th.—The antimony produced several fits of vomiting. The tongue is still furred, but the patient calls herself well.

Case VI.—March 4th, 1836. Mrs. Malone, æt. 50, who confesses that she sometimes takes spirits, is suffering from a chronic cough. I gave her two grains of coloured emetine.

9th.—The emetine had its full effect.

Case VII.—March 23d, 1836. Mrs. Waterman is suffering from spinal irri-

tation, with great nervousness and a foul stomach; emetics operate upon her but feebly. I gave her two grains of coloured emetine.

March 25th.—The emetic produced nausea, but no vomiting.

Magendie says, that two grains of coloured emetine given to a healthy man, fasting, cause prolonged vomiting, followed by considerable sleepiness. But he adds, that a quarter of a grain is sometimes sufficient to produce nausea and vomiting. Its effect upon the sick is the same, namely, it causes vomiting and purging; but it is likewise beneficial in catarrhal affections, particularly when chronic*.

Though Magendie speaks of the purgative effect of the emetine, when given to the sick, as showing the identity of its action with that which it has upon the healthy, this property is not mentioned by him in the latter case, nor do I find it recorded in my notes.

It is probable that emetics, once so much used, and now so undeservedly neglected, may again come into fashion, in which case emetine will merit more frequent trials, as the list of established emetics is certainly very short. Dr. Holland, in his "Medical Notes and Reflections," has a judicious chapter on the use of emetics, in which he repeatedly expresses a wish for their more frequent employment, and observes that "if ipecacuanha were invariably of good quality, which unfortunately it is not, it might be sufficient in almost every instance."—(P. 299).

Now, emetine has the advantage of saving the patient from the nauseous earthy taste of ipecacuanha, besides being of less variable quality.

In the cases above narrated the dose was sometimes too small, but I thought it right to keep on the safe side. It is scarcely necessary to caution the practitioner against giving equally large doses of the pure, as of the coloured emetine—the mistake might be fatal.

41, University Street,
Sept. 11, 1839.

* Formulaire pour la préparation et l'emploi de plusieurs nouveaux médicaments. 8e édit. p. 96.

LETTER FROM DR. HOPE ON DR. C. J. B. WILLIAMS'S LATE STATEMENT.

To the Editor of the Medical Gazette.

Sir,

In your number for August 31, 1839, is an attack upon me by Dr. C. J. B. Williams. I feel the strongest repugnance to obtrude any private disagreement on public notice; and for this reason, but still more from forbearance towards that gentleman, I have refrained from noticing various similar attacks during the last four years. I am advised, however, now to state, that on the occasion of his late attempt to supplant me at St. George's Hospital, I offered him, through the Rev. W. Niven, an arbitration by five gentlemen, equally selected, on the subject at issue between us: namely, which of the two had violated an arbitration by Sir B. Brodie, broken a final agreement by Dr. Macleod, and unjustly appropriated certain experiments. Having first acceded to this offer, he, after six weeks of deliberation, finally declined it, on seeing, at page 30 of the third edition of my Treatise on Diseases of the Heart, my tardily and reluctantly extorted defence against his reiterated impeachment of my integrity.

Now a gentleman conscious of the justice of his cause, and feeling the confidence which justice inspires, would have preferred defending his character by entrusting his case to the fair and honourable tribunal proposed by me, rather than by resorting to personal abuse and unsupported assertion in a public journal. As Dr. Williams has chosen the latter course, it is unnecessary for me to notice him, beyond distinctly contradicting the whole of his statements, and expressing my readiness to furnish his "friends" with irrefragable *documentary* evidence in substantiation of all that I have alleged at page 30 of my work.—I am, sir,

Your most obedient servant,

J. Hope.

3, Lower Seymour Street,
Sept. 10, 1839.

MEDICAL GAZETTE.

Saturday, September 14, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE NEW EDINBURGH PHARMACOPŒIA.

In the number of the Edinburgh Medical and Surgical Journal for July, 1839, is to be found a review of the London Pharmacopœia of 1836, and the one published by the Edinburgh College this year. On the whole the critique is a solid and judicious one; and even if there were some slight leaning to the Codex published in their own city, we would not venture to censure it. It does not go against the grain, says Aristotle, to praise the Athenians at Athens. Our contemporary, like ourselves, would have preferred to see one Pharmacopœia take the place of the three now used in these islands, and is disappointed that the project has miscarried. There are great difficulties, no doubt, in the way of such a union. To carry on the compilation of a British Pharmacopœia by correspondence would be as long and wearisome as the matches at chess which are sometimes conducted in this manner, and would be barely possible if Dublin was to be included in the scheme. If the articles of the treaty were to be arranged by personal discussion, some of the principal members of the profession must leave their homes and their practice for a very thankless office. The Edinburgh Journal, however, thinks that if there had been sufficient zeal on both sides, the difficulty regarding distance might have been got over, as far as respected England and Scotland. We think so too, for to genuine zeal difficulties hardly seem to exist—*impossible, n'est pas français*, said Napoleon. Minute details could not well be given, nor small differences arranged by written correspondence, but the greater features of the work might have been laid down in this manner, leaving the more delicate touches for verbal discussion. A meeting of ten days, or a fortnight, would have been sufficient to complete the negotiation had the parties been thoroughly in earnest; and, at any rate, the two ends of this island might have agreed to make up their medicines in the same way. Two commissioners on each side would have been sufficient, who might have met at that dull season of the year when metropolitan practitioners can leave, without much danger, the scene of their duties; nor would it have been very onerous to recompense them sufficiently for their expenditure of time and talent.

We can easily conceive, however, that, supposing these preliminaries to be adjusted, a great difficulty might still remain; the difficulty, on both sides, of knowing how much or how little to concede. Ought the commissioners to be considered as representing the number of medical practitioners in their respective countries, which would be a tangible, though perhaps invidious way of estimating their votes; or ought they to represent the medical and pharmaceutical merits of London and Edinburgh, which would be almost as invidious, and could not fall into the domain of calculation?

In a united Pharmacopœia of this kind, it would perhaps be necessary to include many formulæ which, being favourites on one side of the Tweed only, need not be made compulsory on both; taking care to avoid having more than one formula for the same remedy. Thus the Parisian Codex contains numerous preparations, which are not compulsory, but which afford the advantage, that when the physician prescribes them, their name alone is suffi-

cient; and he need not torture his memory or his invention to combine the ingredients, well knowing that the mere title, like some magic form of words in a tale of wonder, will unlock all that he can desire. Jeremy Taylor somewhere expresses a wish that those religious teachers, whose zeal is far greater than their knowledge, should be restrained from preaching sermons of their own composition, and be confined to homilies; and we think it would not be a little comforting to the druggist, and not a little advantageous to the public, if ordinary practitioners could crib and cabin their prescriptions more nearly within the limits of officinal formulæ.

Our contemporary observes that physicians would be much aided in the composition of a pharmacopœia, if they could receive suggestions from those who are to make up its formulæ; and he draws a melancholy picture of the state of chemists and druggists in this country. A man may set up in this trade, with the most scanty smattering of the sciences which bear upon his occupation, and however small may be his acquaintance with the language and meaning of physicians' prescriptions. This is true enough, but yet there is no deficiency in London, and we presume none in Edinburgh, of druggists well qualified to give excellent hints to the compilers of the code by which they are to be governed; for here, as elsewere, the legislative is very frequently and very properly guided by the executive power. We must acknowledge, however, that the want of a systematic education among our druggists necessarily lessens the number of such skilful advisers, and is perhaps the reason why we have to "search in vain among our pharmaceutists for names as distinguished in science as those of Sertuerner, Buchner, Robiquet, Pelletier, Guibourt," &c. The remedy proposed by the Edinburgh Journal is an improved education to be forced upon the druggists by law; it allows, indeed, that in these times interference with free trade is not popular, but thinks that the interest of the public and the profession should cause this unpopularity to be disregarded. We doubt whether any scheme for the regulation of druggists would meet with favour in parliament, unless it made part of a more general bill for the new-modelling of the whole medical profession. And who is there capable of drawing such a bill? Or who of sufficient influence to get such a bill passed, if it were drawn? On the other hand, it is clear that if the strange verdict stands, which was given the other day at Liverpool, in the case of the Apothecaries' Company *v.* Greenough, the famous act of 1815 is virtually repealed in favour of the uneducated druggist; so that a new statute will be required either to improve the dealer in drugs, or to prevent his competing with the apothecary. But we should imagine that the verdict will not be held good in the Court of Queen's Bench.

The Edinburgh reviewer turns with gratification to the tests, the introduction of which into the Pharmacopœia was proposed by the Northern to the Southern College. Their application is not confined to chemical articles, but extends to many vegetable substances. Thus, when gamboge is pure, "a decoction of its powder cooled is not rendered green by tincture of iodine, but merely somewhat tawny" (Ed. Pharm. p. 13), showing that it has not been adulterated with starch. The best catechu yields to sulphuric ether 53 per cent. of tannin dried at 280°, and the worst affords 28 per cent.

The powder of conium, when triturated with a solution of potash, exhales a powerful odour of conia; and the outer surface of cusparia is not turned dark-green, nor its transverse fracture red, by nitric acid. This test distin-

guishes the true from the false angustura bark, as the reviewer observes; or, in other words, cusparia bark from that of the Brucea antidysenterica; the latter, as it contains brucine, is reddened by nitric acid.

Of olive oil, the College says, "when carefully mixed with a twelfth of its volume of nitrate of mercury prepared as Unguentum Citrinum, it becomes in three or four hours like a firm fat, without any separation of liquid oil"; by which the presence of inferior oils may be detected. The oil of cinnamon is known from oil of cassia by its cherry-red colour, purely "cinnamomic" odour, and its being changed by nitric acid into a nearly uniform crystalline mass. Copaiba, among other characters, dissolves a fourth of its weight of carbonate of magnesia, with the aid of gentle heat, and continues transparent.

A decoction of powdered scammony, when filtered and cooled, is not rendered blue by tincture of iodine; thus showing that it is free from starch.

Such are a few of the applications of tests by the College, which, with the commentaries of the reviewer, of which we have made use, will be of service to the practitioner.

We ought not to omit to mention that there is a chapter of tests in the Edinburgh Pharmacopœia, giving directions for preparing oxalate of ammonia, nitrate of barytes, solution of the nitrate silver (12 grains to the ounce), solution of ammoniated silver, solution of nitrate of barytes (24 grains to the ounce), and solution of phosphate of soda.

Here is an instructive instance of the difficulty of reconciling theory and practice. In the list of articles of the Materia Medica the College says "Aqua —*Spring Water*. For pharmaceutic use spring water must be so far at least free of saline matter as not to possess the quality of hardness, or contain above a 6000th of solid matter."

Theoretically, distilled water should be used in pharmacy, at least in a great number of its operations, but then this is expensive. Dr. A. T. Thomson suggests the use of filtered rain-water alone; but this, too, we apprehend, would be somewhat troublesome; that is to say, it would not be easy to procure such water in large quantities, at a small expense. And, lastly, springs so pure as the passage just quoted indicates, are not, we believe, very common.

We shall not regret our repeated examinations of the excellent work, of which we now take leave, if they induce our younger readers to impress their memories, while yet receptive of new facts, with an accurate knowledge of drugs and their best preparations.

MEMOIR OF DR. PHYSICK.

The number of the American Journal of the Medical Sciences for May, 1839, contains an interesting biography of the late amiable and accomplished Dr. Physick, one of the most distinguished ornaments of our profession among our brethren in the west. We subjoin a short extract, which derives additional interest from its also relating to John Hunter:—

Fortunately for Dr. Physick, his father's connections in London were such, that he was enabled to introduce his son to some of the most learned and polished society of that great metropolis. An intercourse of this kind created for him an influence and gave him opportunities by means of which his cherished views were considerably promoted. All who ever saw Dr. Physick must have been struck with the exceeding dignity and courteousness of his manner. For this no doubt he was principally indebted to nature, though it must have been improved and confirmed by this association with the elevated society which he enjoyed whilst abroad. By means of this same influ-

ence Mr. Physick succeeded in securing the consent of Mr. John Hunter, then one of the most celebrated anatomists and surgeons of the age, to receive the subject of our memoir under his immediate care and tuition.

Dr. Physick considered this as the most important era in his professional life. He early became convinced of the extraordinary advantages which he might derive from this connection with Mr. Hunter, and proceeded accordingly to devote himself with the most ardent zeal to the study of practical anatomy and surgery. By dint of constant and unwearied application to his studies, aided also by a course of unceasing and untiring dissections, he soon made rapid advancement in the attainment of his objects, and what was also of much consequence, secured to himself the approbation and esteem of his great master. Mr. Hunter, in fact, was so well pleased with the zeal, industry and correct deportment, of Dr. Physick, that he took pleasure in acknowledging him as a favourite pupil, and bestowed upon him, with the most unreserved confidence, the full benefit of his advice and experience. During this period Dr. Physick attended regularly the lectures delivered by Mr. John Clark and Dr. Wm. Osborne, on Midwifery.

Dr. Physick continued to prosecute his studies with the most exemplary perseverance and industry, under the immediate superintendence of Mr. Hunter, throughout the year 1789. On the first of January, 1790, he was appointed House Surgeon to St. George's Hospital for one year, the usual period of that service in the institution. This appointment he owed exclusively to the patronage and influence of Mr. Hunter. The advantages of such a situation to the student of medicine, in facilitating his acquisition of practical knowledge and skill, were of the most important character, and were so well known as to cause the place to be sought after by numerous applicants, most of whom, from the circumstance of their English birth alone, it might be supposed, could have had an influence which would have rendered them successful competitors against a foreigner for the place. Here were exemplified in the most happy manner the important advantages which Dr. Physick derived from the favourable impressions which Mr. Hunter had imbibed respecting his general worth, his talents, and his acquirements. These considerations induced Mr. Hunter unhesitatingly to exert the whole of his influence in behalf of Dr. Physick, with what effect has been stated.

A few months after this period, Dr. Physick had so severe an indisposition, that Mr. Hunter became alarmed about him, and was on the eve of insisting upon his return to America. This attack, no doubt, was principally owing to the laborious life which he led, and the close confinement to which he subjected himself. Providence, however, for its own wise and beneficent purposes, thought proper to restore him to health, to the great delight and gratitude of his parents and friends.

It was during the period of his remaining at St. George's Hospital, that Dr. Physick acquired a vast deal of that surgical skill and dexterity which laid the foundation of his subsequent greatness. Having his whole time occupied in administering to the wants of such unhappy objects as were suffering from the effects of accidents or disease—being constantly engaged in applying the necessary bandages and dressings to fractured bones, dislocations, wounds, and injuries of every description, and seizing hold, as was his invariable custom, of every such opportunity of making himself minutely acquainted with the most perfect manner of performing these services—he soon became remarkably expert in all his manipulations, and acquired a degree of experience which increased greatly his stock of practical knowledge. He indeed exhibited a degree of neatness and dexterity in the application of bandages and dressings never excelled probably by any other surgeon.

During the period of his services in this institution, he learned also the manner of constructing and contriving several kinds of instruments and apparatus, which he subsequently was the first to introduce into this country, to the great benefit of our art.

An anecdote frequently related to me by Dr. Physick, connected with his early appointment to St. George's Hospital, I may be pardoned for mentioning here, notwithstanding it has already been promulgated from another source. His success in obtaining this situation caused some slight degree of dissatisfac-

tion on the part of some of the disappointed applicants, who conceived that their claims for the situation were stronger than his. In consequence of this, Dr. Physick perceived that they evinced uncommon curiosity respecting his manner of discharging his duties, and were disposed to scrutinize his actions with the greatest strictness. A short period after commencing his services, a patient was admitted into the hospital with dislocation of his shoulder, the head of the humerus being lodged in the axilla. Fortunately the accident was quite recent. It so happened that at the time the man was admitted, the whole class were in attendance at the house. They, of course, were exceedingly anxious to witness the manner in which the reduction would be effected, and Dr. Physick was well aware that his method of restoring the bone to its natural situation would be severely criticized. He directed the patient to be seated upon a high chair, and then proceeded to examine the injured shoulder, questioning the man as to the manner in which the accident had occurred. Whilst making these inquiries, he placed his left hand in the axilla, and taking hold of the lower end of the humerus with his right hand, he made all the extension in his power; then suddenly depressing the elbow of the patient, he dislodged the head of the bone, which glided instantaneously into the glenoid cavity.

In relating this incident, Dr. Physick never assumed to himself much merit for his success, but rather ascribed it, in a great degree at least, to the favourable nature of the case. His characteristic modesty, however, induced him to underrate his services; his success was doubtless principally owing to that unrivalled address and dexterity of which he subsequently proved himself to be so complete a master. The treatment of this case produced the most happy influence in promoting the interest and comfort of the doctor during the remainder of his stay in the hospital. He stated that from that time forward he always enjoyed the uninterrupted regard and respect of the medical class.

In January, 1791, the period for which he had been elected to St. George's Hospital having expired, he quitted the institution, carrying with him the warmest testimonials, from its proper authorities, of his medical qualifications, and also of his general good conduct. They went so far as to declare, that instead of considering him to lie under any obligations to the institution, they considered the institution indebted to him for the many benefits he had conferred upon its unhappy inmates, and for the useful results which had been produced by his singular zeal and abilities. He now received his diploma from the Royal College of Surgeons in London.

Soon after leaving St. George's Hospital, Dr. Physick received from Mr. Hunter a mark of respect and esteem which was in the highest degree gratifying to him, and more particularly so as it furnished conclusive evidence of Mr. Hunter's entire confidence in his professional skill and attainments. Mr. Hunter invited him to take up his residence with him, to become an inmate of his house, and to assist him in his professional business; he also held out inducements to him to establish himself permanently in London.

Notwithstanding the tempting nature of these offers, and the great advantages which Dr. Physick might have derived from accepting them, it did not comport with either his own designs, or those of his father, that he should exile himself from his native country. In accordance with the plan previously laid down for the completion of his medical education, he was to visit Edinburgh, in order to graduate in medicine in the University of that city. He, however, gratefully accepted Mr. Hunter's invitation to reside with him until this period should arrive; and accordingly he remained with Mr. Hunter, and assisted him, not only in his professional business, but also in the prosecution of his physiological experiments, and the making of anatomical preparations, until May, 1791, when he took his final leave of London. I may notice that his father had, previously to this period, returned to America.

The parting between Mr. Hunter and Dr. Physick was painful to the latter to an extreme degree, and certainly the most distressing event which occurred to him during his stay in London. The ties which bound him to Mr. Hunter were of no ordinary description. Mr. Hunter had not only extended towards him the warmest friendship and regard, but had also conferred invaluable benefits upon him, by giving him the advantages of his powerful aid and in-

fluence, and by promoting, by all the means in his power, his medical researches. These obligations could only be acknowledged on the part of Dr. Physick by the most sincere and ardent devotion to his beloved preceptor; and in fact the admiration felt for Mr. John Hunter by Dr. Physick amounted to a species of veneration; he never ceased to consider him as the greatest man that ever adorned the medical profession. Could his honoured master have been permitted to witness the closing career of his pupil, he would have felt himself amply recompensed by the rich harvest of fame and usefulness which the latter had gathered, in consequence of his valuable aid and instructions.

SCIENTIFIC MEETING IN GERMANY.

To the Editor of the Medical Gazette.

Sir,

It seems worth announcing to the practitioners and friends of the medical and physical sciences of England, that the Annual General Meeting of German Naturalists, Chemists, and Physicians, will be held this year at Pyrmont, the most ancient and celebrated mineral watering-place of Northern Germany, a medical sketch of which is to be found in Nos. 23 and 24 of the Lancet, vol. ii. 1837-38. Foreign visitors devoted to these branches of knowledge will find there not only the kindest reception from their scientific brethren, but also convenient lodgings, gratuitously offered to them by the sovereign, and by the principal citizens of the place. The first public sitting is fixed for the 18th September, the last for the 26th of the same month.

Without any other claim than that of scientific fellowship, I venture to beg you, sir, to allow the few lines above to find their way into the next number of the highly esteemed periodical published under your careful direction, and to accept on this occasion the most sincere respects of

Yours,

R. Harnier, M.D.

Pyrmont, Sept. 1, 1839.

[We have great pleasure in granting Dr. Harnier's request, though it has reached us so late, that our readers must not lose much time if they wish to reach Pyrmont by the 18th. He will see that we have taken the liberty to correct a few foreign expressions in his communication. —Ed. Gaz.]

VARICOSE CAPILLARIES.

To the Editor of the Medical Gazette.

Sir,

In Dr. Hake's statement which appeared in the Medical Gazette of August 24th, he refers to a letter which was written by me to Mr. Kiernan in answer to one I received from that gentleman, requesting me to state what I remembered of a conversation that took place between him and Dr. Hake during the inspection of an anatomical preparation, under the microscope, on an evening that I passed at his house. I could do no other than comply with Mr. K.'s request, and I can conscientiously assert that what I stated was as nearly as possible what passed on that occasion. In vindication of my own character I feel compelled publicly to state this, as Dr. Hake has to my surprise and regret denied the correctness of my statement. The dispute between these two gentlemen has taken a very serious turn, and has excited much attention; I therefore feel myself bound to be not less cautious in what I say than if I were placed in a witness box in a court of justice; nor would I on any account say one word inconsistent with the strictest truth, in favour of or against either of these gentlemen, and it is very painful for me to be obliged to make my present statement, as up to the night in question, Dr. Hake had acted with much kindness to me. When I saw Mr. Kiernan after having written the letter which appeared in your journal, he told me that he was very sorry he had been obliged to ask me to state what I knew of this business. I answered that, had he used Dr. Hake as Dr. H. had used him, I should have written a precisely similar letter to Dr. Hake, and it was my intention to have told this to Dr. Hake, if I had seen him.

I now proceed to make some remarks on Dr. Hake's statement. Dr. Hake says that he looked at the preparation "for some minutes;" I stated that he examined it for "about an hour and a half," and to that statement I adhere; and it certainly does occur to me that Dr. Hake was so deeply interested in the subject under his inspection as to be quite unconscious of the time he was occupied with it. Dr. Hake also says that he looked at the circulation in an aquatic plant "for a much longer time" than at the preparation; but Dr. Hake must certainly remember the following circumstance. After I had been examining the plant for some time I requested him to come and view the beauty of the circulation; his reply was "no, I can see that any time, I have some-

thing to look at here (meaning the preparation) that is much more interesting."

Dr. Hake also said, as I have stated in my former letter, that "he could sit and look at it all night." Dr. Hake says that Mr. Kiernan was "obstinately taciturn, and whatever remarks were made came from me (Dr. Hake)." I confess I am much astonished at this assertion, and the following observation addressed to me by Mr. Kiernan, by way of apology, in a great degree proves its incorrectness, and at the same time shews the interest they took in the subject of their conversation, and the time occupied in it. Mr. Kiernan said he was sorry, after inviting me to see him, to leave me to amuse myself, while they were looking at the preparation, and talking on a subject which did not interest me.

Dr. Hake states, that after examining the preparation in question, he asked Mr. Kiernan to show him some other preparations. I must state that no request of this kind was made by Dr. Hake; that the examination of that one preparation, and the conversation upon it, occupied nearly the whole of the evening, and that Dr. Hake's own words, that "he would be as silent as the grave," referred to the preparation he had seen, and not to any others which he had not seen; and that Mr. Kiernan did not use any words even like the following, "that no one living could find out what he had done"—"it was utterly impossible." Every one will admit that, had Mr. Kiernan used these words, it is not likely I should have forgotten them.

In my former letter, I said, "during the time—which was about an hour and a half—that Dr. Hake was examining it with the microscope, you (Mr. Kiernan) pointed out several different parts to him, one of which you said was disease in its most incipient state." On this part of my letter, Dr. Hake remarks, "but Mr. Kiernan did not point out "different parts," one of which was illustrative of disease in its "incipient state," as Mr. Powell intends to imply; he only made the preparation to shew the parts which were injected." To this I answer, that mine is a plain statement; that I did not intend to imply either more or less than I stated; and that Dr. Hake himself confirms what I stated, viz. that Mr. Kiernan moved the preparation to point out to him the "diseased parts," that is, the "injected parts."

I now repeat what I said in my former letter, viz. that Dr. Hake wondered Mr. Kiernan had not published *it*—that Mr. Kiernan was too careless about *it*—and that some one would certainly publish an account of the *same subject* before Mr. Kiernan. The word "*it*" twice repeated, and the words "*same subject*," obviously refer to the preparation examined by Dr. Hake, and cannot be applied to preparations which Dr. Hake says he asked Mr. Kiernan to shew him, and of which I never heard until I saw Dr. Hake's statement; and I shall never be able to understand how Dr. Hake could urge Mr. Kiernan to publish discoveries as his own, which Dr. Hake now says he himself made ten months ago in Paris. Nor shall I ever be able to understand how Dr. Hake could express such unqualified admiration of what Mr. Kiernan showed him, saying, that it was "the most important anatomical fact that had ever come to his knowledge," without giving the slightest hint that he had ever seen any thing of the same kind before. If he even had seen any thing of the same kind before, Dr. H. admits that, as we walked home together from Mr. K.'s, he expressed his fear that Mr. K. would be anticipated if he did not publish his discoveries soon—and by his discoveries, I understood Dr. Hake to mean the discoveries Mr. Kiernan had that night communicated to him; and he did not even then give me the slightest idea that he had ever seen, or even heard of, such things before; and when Mr. Kiernan told me that Dr. Hake intended to make public those discoveries as his own, I could not at first believe it, for I thought that Mr. Kiernan had misunderstood Dr. Hake, and I said "it must be a mistake." I may here add that Dr. Hake expressed so much admiration of the anatomical preparation he had seen, and so impressed was I with the effect produced on him by it, and by the anxiety he expressed that Mr. K. should shortly published his discoveries, that I told my family the next morning how delighted Dr. Hake had been with what Mr. Kiernan had shewn him.

I am fully aware how disagreeable this statement will be to Dr. Hake, and no one regrets it more than I do, but I feel myself bound in justice to the public, to Mr. Kiernan, and to my own character, to make it, and I am sorry that some medical friend of Mr. Kiernan's, who would have been much more competent to the task, was not present, and who would have been able to do that full justice to that gentleman which I am incapable of doing.

I remain, sir,
Your humble servant,
H. POWELL.

24, Clarendon Street, Somers Town,
September 11th, 1839.

RESEARCHES IN EMBRYOLOGY.

REPLY TO T. WHARTON JONES'S REJOINDER.

By Dr. Martin Barry.

[*For the London Medical Gazette.*]

T. Wharton Jones, in a spirit more controversial than courteous, accuses me of "a pure invention" in alleging* that he had claimed priority of discovery as to the germinal vesicle and germinal spot in the mammiferous ovum. Let us see whether the facts of the case justify him in the use of such an imputation.

In the answer which T. Wharton Jones attempted to my former article, Med. Gaz. Aug. 24, 1839, he quotes the words of the Editor of that periodical, and adopts them as part of his own statement, not disclaiming or qualifying any thing therein alleged. Now the Editor, arguing on behalf of T. Wharton Jones, and speaking of the discovery of the germinal vesicle and spot, says as follows:—

"Hence, it appears that, like many other discoveries in science, the germinal vesicle of the mammiferous ovum was discovered about the same time in this country and on the continent. But it will be seen from Mr. Jones's memoir, that he had investigated the subject so fully and successfully as to be able to give such a description of it as is only to be drawn from the united labours of Coste, Valentin, and Wagner†."

He goes on to say, "*A comparison of dates will determine the mere matter of priority.*" Priority for whom? Not for Valentin—not for Wagner; but for T. Wharton Jones. How is this shown? The writer immediately tells us, that "Mr. Wharton Jones's observations were made in the beginning of September 1834, and his memoir read before the Royal Society, 18th June, 1835." Why are these dates given at all? To prove that which the writer said a comparison of dates would determine—*the matter of priority*: to prove, in fact, that T. Wharton Jones was not the last, but the first in the field,—and thus was the priority of discovery set up for T. Wharton Jones. This gentleman adopted, as I have said, the very words in which that claim was preferred, by republishing them as part of his own statement: and yet, in the face of all this, he now says, "This is *a pure invention* on the part of Dr. Barry"—and then adds, "I am not aware that any thing I ever wrote or said can be construed into such a meaning; and I do not perceive that you, Mr. Editor, in the remarks reprinted in the last number but one of the Medical Gazette, advanced any claim of priority in my behalf." —So much for T. Wharton Jones's denial of having advanced a claim of prior discovery, and so much for my "pure invention."

What I stated in answer to this claim of priority set up for T. Wharton Jones, was as follows: "Valentin and Bernhardt having published an account of the germinal vesicle in October 1834, and R. Wagner having sent to Müller's 'Archiv' an account of the germinal spot in the same year, the discovery of both the vesicle, and the spot on the *inside* of it, was made known to the world previously to T. Wharton Jones's publication of his discovery of the germinal vesicle, and (the object he now supposes to have been) the germinal spot, in June 1835*."

As to observations made *previously* to publication, they must, of course, have been made previously in every case. T. Wharton Jones says he made his in September 1834: at what distance of time the observations of Valentin and Wagner preceded their respective publications, I know not; but I take it that the date of publication, in each case, is an authentic and correct criterion as to the question of priority: it is the public evidence of the fact; but as to the private transactions to which T. Wharton Jones alludes connected with his observations, I have now heard of them for the first time. Since, however, T. Wharton Jones now disclaims priority of discovery, I shall not dwell upon that part of the subject any longer.

But T. Wharton Jones states that this matter of the germinal vesicle and spot is only an episode to the original question, and then proceeds to say, "the main point in dispute, I beg it to be remembered, is contained in my communication of the 20th of July, the object of which was to disprove the assertion, that the study of embryology is 'one to which the attention of physiologists in this country has scarcely begun to be directed,' and to expose the unfounded nature of the pretensions to novelty, originality, and correctness, which Dr. Barry has introduced into both series† of his 'Researches.'" Here T. Wharton Jones has only repeated his first unwarranted construction of a passage of mine, which I explained in a manner that showed it did not bear the meaning he had chosen to put upon it. When he thought fit to repeat his attack, it would have been only candid in him to have accompanied it with my explanation. As he has not thought proper to do so, I here subjoin it:—

"I think it is obvious from the context of the passage cited, when taken in con-

* Medical Gazette, Aug. 31, 1839, p. 848.
† Ibid. for Aug. 24, 1839.

* Med. Gaz. Aug. 31, 1839, p. 847.
† Phil. Trans. for 1838 and 1839.

junction with what had preceded it—and which T. Wharton Jones has not quoted—that I meant to make no invidious allusion whatever to the labours of English physiologists on the subject of embryology in general, but that the remark objected to in that passage has a reference only to that portion of the science of embryology which regards the existence of the microscopic ovum in the ovary of mammals, as discovered by Baer, and upon which so little had been observed or written in this country, as compared with German research, that I thought—and still think—myself perfectly justified in stating, that the attention of physiologists in England had scarcely begun to be directed to it*."

Had T. Wharton Jones extracted more than a sentence isolated from the context, it would have shown that I had no intention of making a sweeping attack on British physiologists in reference to embryological science in general. I certainly never suspected, until I saw how my words had been misconstrued, that the most perverted ingenuity could have attributed to them a meaning so different from the true one.

As to the invidious allusion to what he is pleased to designate my "pretensions to novelty, originality, and correctness," I shall only repeat what I before said†, that they "are before a tribunal on whose intelligence and impartiality I can rely, and from whose decision I will not shrink."

ON POISONING BY ARSENIC.

ORFILA'S LATE DISCOVERIES.

THE subject of poisoning by arsenic, which is so important both in forensic and practical medicine, has just been re-examined and thoroughly solved—at least in its medico-legal relations—in some memoirs communicated o the Royal Academy of Medicine.

For this we are indebted to M. Orfila. No one doubts the immense importance of the medico-legal applications of these new researches; but the same cannot be said of their therapeutic value, for this has been contested.

As we are disinterested witnesses of the discussion, and have conscientiously studied all the details of the question, we shall examine it successively under its two aspects. We must observe, however, that in these new inquiries of M. Orfila, the therapeutic question is subordinate to the medico-legal one. We shall, therefore, touch but slightly on the first; but we shall go at length into the method by which arsenic is detected *to a certainty*, in the bodies of those poisoned by it, and which, by the extension of which it is capable, will effect a fortunate revolution in toxicology, by ensuring the discovery of the greater number of poisons in the bodies of their victims; and this at every period of their crime, however advanced decomposition may have been, and in whatever manner the poison may have entered the living organs. Such, by anticipation, is the general enunciation of the results of these inquiries.

Hitherto, medico-legal examination in cases of poisoning has consisted chiefly in analysing the matters found in the stomach and intestines after death. Investigation was not pushed any farther.

But it often happens, however little the judicial inquiry may have been delayed, particularly when the dose of the poison has not been very large, that the most careful analysis does not detect the slightest trace of any poisonous substance, although poisoning has really taken place. This is particularly the case with arsenic, the special object of the late investigations, and must be so also with a great number of other poisons.

The cause of this failure is obvious enough; the poison has been removed by absorption from the alimentary canal. Whether the arsenic is swallowed, or applied to any other part of the system, the explanation is the same; unless the dose is very large, it disappears sooner or later, being carried by the absorbents into the depths of the system. This being granted, it is plain that if we confine ourselves to testing for arsenic according to the established methods, a skilful poisoner may escape the just punishment of his crime; for the jury is rarely satisfied except by the absolute detection of the arsenic.

Now, M. Orfila's method pursues the poison through every tissue of the frame, and detects it in the liver, the lungs, the brain, nay, in the last wrecks of organic matter. Here follows a proof; we select it from many others, first, because it is decisive, and also because it has been the starting point from which all the details of the question have proceeded.

On the 22d of December, 1838, a man died with all the symptoms of poisoning; but these are no more than probable evidence, as many natural diseases may be attended by the same symptoms. The body, therefore, was buried. A fortnight afterwards the public loudly demanded that the circumstances attending this death should be judicially investigated. The body was disinterred, and on examining the digestive organs, those anatomical lesions were discovered which usually follow poisoning by arsenic. It remained to be seen if chemical analysis would con-

* MED. GAZ. for Aug 17, 1839.
† Ibid.

firm the triple testimony borne by the symptoms of the disease, the organic lesions, and public opinion. Skilful experimenters tested and tested again, according to all the rules of science, but in vain; not an atom of arsenic was detected, and the corpse was again buried.

Meantime, the moral proofs of poisoning became stronger every day. M. Orfila was officially consulted, and, by his advice, the body was again disinterred, in April, about four months after it had been originally buried. The remains of the corpse were sent to Paris to be again examined. It is easy to imagine the state of the internal organs in a subject which had rapidly sunk under its symptoms, even if it did not perish by a violent death; which had been buried and disinterred twice in the space of four months; which had undergone all the minute trials of a judicial inquiry, as well at the hands of the chemists as of the physicians; and which, in conclusion, was exposed to the continual joltings of a post-chaise during a journey of eighty leagues. In fact, the stomach and intestines no longer bore any trace of organic structure, and all the other parts were more or less disfigured. It was to this mass of flesh, almost shapeless, and half decomposed, that M. Orfila had to apply his new method. This memorable experiment was performed in the presence of MM. Devergie and Lesueur, and with their assistance. The result did not disappoint the celebrated forensic physician; he demonstrated the presence of arsenic in the liver and the limbs of the victim; and it was even detected in the cask which had been used to preserve the remains. Let us now mention in what this method consists, how it is practised, and on what its success depends.

Arsenious acid, when introduced into the stomach, or enclosed in the subcutaneous cellular tissues, is absorbed, and mixing with the blood, enters every organ. When it is finely powdered, and placed on the subcutaneous cellular tissue, only one or two grains are absorbed, whatever may be the quantity used; and this small quantity is sufficient to kill dogs of different sizes. More of it is absorbed when it is introduced into the digestive cavity.

The cases of poisoning which have hitherto occurred in man show that arsenic acts in the same manner that experiment shows it does upon dogs, except that a greater quantity is required to produce death in man. The mode of action of arsenic being thus determined, in reference to the parts to which it is applied, to the passages through which it makes its way, and the quantity which is required for poisoning, M. Orfila meets the question of the extraction of the poisonous substance, in his ordinary way, by experiments and facts. He first shows that it is possible to obtain metallic arsenic from the portion which has been absorbed; and next, that it is indispensable to have recourse to this extraction when the poison has not been found in the alimentary canal, nor in the matters vomited, nor in the other parts to which it may have been applied; for if we confine ourselves, as has been done hitherto, to looking for arsenic in the matters coming from the stomach and intestines, we run the risk of finding none, either because none remains in the digestive tube, or because the matters vomited have been removed; while the metal may always be obtained from the portion of the arsenious acid which has been absorbed, as facts and experiments continue to show. This poison, adds M. Orfila, may be detected by properly treating a certain number of muscles, or a single viscus, previously dried, particularly if the viscus is very vascular; but it is better to act upon the whole corpse, or at least on half of it, as the quantity of arsenious acid which has been fatal is too small for us to hope to detect it beyond the reach of doubt, if we treat only a single viscus, or an inconsiderable portion of the muscles and bones.

Moreover, arsenious acid can be detected in the blood obtained by bleeding the patient, provided there are several ounces to examine. In this point of view, at any rate, bleeding would be highly useful, by facilitating the inquiries of justice. We shall afterwards say what we think of its utility as a therapeutic agent.

We have just seen, on the one hand, how arsenious acid may be introduced into the system, and on the other, what becomes of it and by what line of proceeding it is to be detected; it remains only to show the method of extracting it. M. Orfila proves by the accumulated results of cases and experiments, that the best method of obtaining the metal consists in boiling the whole body in distilled water for six hours, in precipitating the impregnated fluid with sulphuric acid, then removing the arsenic from the sulphur which is deposited, mixing the decanted and filtered liquid with solid azotate of potass (nitre), evaporating the mixture to dryness, and then incinerating the product: this is first to be treated with water, and afterwards with concentrated sulphuric acid, and then to be put into Marsh's apparatus, not in its usual form—for this is inadequate to the purpose—but as modified by M. Orfila. It would be disadvantageous to omit throwing down the precipitate with sulphuric acid, and to mix the liquid at first with the nitrate of potash, because, whatever we do, we always lose a portion of the arsenious acid while burning the

collected matter with the nitre. The loss will be evidently much smaller if we begin by removing from the fluid all that sulphuric acid can precipitate, and only treat with nitre the liquid which covers the precipitate.

It is proper to add that we lose but little arsenic if we burn the organic matter after having diligently mixed it with the dissolved nitre; while much less is obtained if the mixture of the animal matter and the nitre has been made in a mortar. The loss is still more sensible, if incineration has been performed after Rapp's method.

The body is to be cut into pieces, and may be conveniently boiled in large cast-iron cauldrons, or in copper ones, if the verdigris is carefully removed; and a very clean iron pan, or a Hessian crucible, may be used for the decomposition of the animal matter by the nitre.

In places where, for want of utensils, the examiners do not undertake all these investigations, it will always be possible, and, indeed, is indispensable, to boil the body in a large cast-iron or copper cauldron, for six hours, with distilled water and ten or twelve grains of solid potash prepared by alcohol; and then evaporate the fluid to dryness, after having passed it through fine linen, while still lukewarm. The solid product may afterwards be conveniently submitted to the necessary tests. Lastly, the presence of arsenious acid in a human body with which it has not been placed in contact, provided its existence has been demonstrated by boiling the corpse cut into pieces, in distilled water, for six hours, without the addition of an acid, incontestibly proves that the poison has been taken during life; for numerous experiments have shown that the bodies of those who have not been poisoned with arsenic, when treated in the same manner, furnish no trace of it.

The chief object of the investigations which we have just analysed is to detect the presence of arsenic, either during the illness of the patient, or after his death; and we are compelled to conclude that M. Orfila's new method of investigation, joined to his improvements of the old ones, makes it impossible henceforth to miss the tangible proof of arsenical poisoning; so that those who have committed such a crime can never again escape the vengeance of the law.

But there is another duty, of which the medical jurist must not lose sight; it consists in preventing the judges from committing an irreparable error, by showing beyond all doubt, that the poisonous substance discovered in the living or dead body has been really introduced by a criminal hand, and that it can neither have been naturally produced in the human frame, nor artificially developed by the action or reaction of the numerous agents employed in testing.

M. Orfila has not overlooked the importance of this task. He first inquired whether the human body contained arsenic among its chemical principles; under what form it appeared; and whether it was possible to distinguish it from arsenic introduced from without. These points having been cleared up, he examined the conditions of the purity of the tests used, and fixed rules by which we may be assured that the arsenic obtained is neither derived from the reagent, nor the vessel, nor from the earth where the corpse may have been long deposited.

M. Orfila has ascertained the existence of an arsenical compound in the human body. This compound, which he believes to be arseniate of lime, is found in a small proportion in the bones, and perhaps in other tissues. This important fact might make one fear that the occurrence of a natural salt of arsenic would affect the results of our analysis, and thus condemn us to a lamentable state of doubt as to the perpetration of the crime. It is fortunate, however, that the experiments of our great medical jurist have cleared up this fearful dilemma; for they have proved that the natural arsenical compound is not soluble in boiling distilled water kept neutral; while, on the contrary, poison introduced into the system is dissolved and consequently disengaged by this menstruum. The reagents employed in these inquiries are the sulphuric and azotic (nitric) acids, potash prepared by alcohol, azotate of potash (nitre), water, iron, and zinc. M. Orfila shows that the sulphuric acid of commerce sometimes contains arsenic in the state of arsenious and of arsenical acid, which might lead to error; but he also teaches the means of purifying it. The same may be said of nitric acid, if it has not been distilled over nitrate of silver. The potash used in these examinations never contains any; the iron and zinc may contain some, but it is easy to test them beforehand, and free them from it.

The instruments used in these investigations are cast iron boilers, porcelain capsules, Hessian crucibles, flasks, and test tubes. The boilers will never yield any arsenic to the fluid that they contain, provided it is kept neutral by the addition of potash prepared with alcohol. The porcelain capsules, the flasks, and the tubes, never yield arsenic; but it is necessary to rince them with an alkaline solution when they have contained arsenical substances.

Lastly, some earths contain arsenic, and may thus make medico-legal examinations

more complicated. However it is easy to test them, and to distinguish the particles of arsenic which they afford from those furnished by the body.

To sum up: the important inquiries of which we have given a short abstract, authorize us to conclude that poisoning by arsenious acid will in future be recognised under all circumstances; and that it will be ascertained without the chance of being confounded either with the presence of arsenical salts naturally existing in the human body, or with the accidental occurrence of arsenical compounds in the tests or instruments used, or in the soil where the body has been buried. In other words, in the memoirs that we have just analyzed, poisoning by arsenious acid is examined under every aspect, and illustrated by such an apparatus of cases and experiments that the irresistible authority of the best demonstrated truths is stamped on the method of which a particular application is described.

To complete this analysis we will add a few words on the employment of venesection in the treatment of poisoning by arsenic. In the first place, is bleeding indicated? It is not long since antiphlogistics were thought to be universally indicated; while, at present, another extreme prevails, and they are rejected almost every where. This is so much the case, that after having formerly combated the absurdity of treating every disease by this method alone, we have now frequently to contend in favour of these powerful agents. Arsenical poisoning is a striking instance in point, yet discrimination is necessary in this as in every other case. If it is meant that in this kind of poisoning bleeding is indicated in every patient, in all circumstances, and in all the phases of its course, the answer is obvious; but no one, we believe, goes so far as this. On the other hand, if any one denies that bleeding is a means of lessening the consequences of this poison, and asserts that it necessarily hastens the catastrophe, and that we ought instead to use stimulants at every stage of the case, he commits a palpable error, which is every moment refuted by facts.

The length to which this article has extended does not allow us to enter into the details of the treatment, which too often is useless.

Before we discuss the different points of this important question, we shall wait till the new experiments projected by the committee of the Academy have thrown some light on the difficulties by which it is still surrounded.—*Gazette Médicale*, Aug. 17th, 1839.

RHEUMATISM OF THE UTERUS IN PREGNANCY AND PARTURITION.

The three following cases, which afford some evidence in favour of the existence of this affection, are from a memoir by M. Dezeimeris, in a late number of "L'Expérience."

J. D. aged 33, during her fourth pregnancy, had in consequence of a chill four weeks before the end of her time, a tense lancinating pain in the uterus, with fever. Diaphoretics diminished this pain, but it was replaced by others, which fixed some times in the upper, and sometimes in the lower extremities. During delivery, the uterine contractions were extremely painful, and from the first day they drew shrieks from the patient without producing the least dilatation of the orifice. The uterus could not be touched without causing most acute suffering; but bleeding and fomentations soothed these pains, and brought on true labour pains, and the accouchement was completed in a short time.

After three days the rheumatismal pain of the uterus reappeared, and required bleeding, ammoniacum, and calomel. Suddenly the pain ceased, and the disease established itself in the muscles of both fore-arms, preventing the patient from holding her infant; and they then disappeared from those parts and fixed on the left knee. All indisposition then ceased in the rest of the body, but the knee swelled and was intolerably painful. Numerous bleedings, calomel, and other means, only gradually diminished these symptoms; but weakness and stiffness of the joint remained for some time, and required the use of crutches.

Q. R. aged 24, of a strong constitution, was received pregnant with her first child in the Maison d'Accouchement of Trèves; during the greater part of her gestation she had had to wash linen in a very cold room, with damp clothes on, and her feet in the wet.

Soon after her admission, (on the 26th of October) she felt pains, which seemed the preludes of labour, succeeding each other at unequal intervals, but producing only slight dilatation of the uterus, though they were very severe. On the 27th, the pains sometimes ceased for a whole hour. On the 28th, the os uteri was more than an inch in diameter, and the membranes were distended like a bladder within it; the pains were strong and frequent, at the same time that the movements of the fœtus were active and painful; in the afternoon the pains became weaker, and the orifice was a little contracted. On the 29th, the orifice was completely contracted, and the patient complained of a

severe pain in the right iliac region, and a sensation of weakness in the whole body. On the 31st, the abdominal pain continued, with head-ache; the pulse, which from the commencement had always been frequent, was still so; there was not the least vestige of uterine contractions. The urine was red, and discharged with a kind of tenesmus of the bladder. The rheumatismal nature of the case was no longer doubted, and an infusion of calomel and valerian, with Hoffman's anodyne, was administered as a diaphoretic. On the 1st of November, the febrile heat and the sweat had rendered the night very restless; the headache continued, but all the abdominal pain had ceased, and the pulse had lost its frequency. On the 2d, the patient felt quite well. On the 26th and 27th the same pains of the abdomen returned again, but soon ceased, and on the 16th of December the case was terminated by a natural delivery.

D. K. aged 24, had been exposed to a great deal of cold and moisture. In the 6th month of her pregnancy she caught cold, and had rheumatic fever with cough, and tearing pain in almost every part of the body, and especially in the sacral and pubic regions. After eight days she came to the hospital with the following symptoms: stiffness in the back; lancinating pains in the chest; dry and painful cough; sense of tension in the sacrum, abdomen, and pubic region; loss of appetite; frequent febrile and small pulse. The fundus of the uterus was two fingers' breadths below the pit of the stomach; the abdomen was very sensitive on pressure. Infusion of calomel and acetate of ammonia, with hot fomentations to the abdomen, were ordered; after a copious sweat the patient was relieved, and in a few days was completely restored to health.

About a month afterwards she was delivered with the forceps. The pains in the abdomen and other parts returned after the accouchement, and continued for ten days, when they were replaced by pain and tension in the left shoulder; after three days these diminished, and the abdominal pains returned, but they were now promptly removed by antispasmodics.—*Gazette Médicale*, Août 24.

[We do not think the rheumatic nature of these cases quite so certain as M. Dezeimeris does; but the first and third are sufficiently remarkable to render the existence of rheumatism of the uterus a subject well worthy of consideration. Its tissue is certainly one in which this disease might be expected for a time to establish itself; but other evidence is necessary than that of the alternation of its pains with those of other parts.]

THE HOSPITALS OF PARIS.

As the Hôtel-Dieu at Paris, or at least a part of it, is now rebuilding, a large number of beds have been added to the other hospitals, to supply the temporary deficiency. A French journal having asserted, however, that there was a want of beds, the *Conseil-général des Hospices* has published an answer, which we find in the *Gazette Médicale* of the 31st of August. It appears that before depriving the Hôtel-Dieu of 5 or 600 beds, an adjoining house was prepared to receive 300 patients. They have been attended there since the early part of this year, and at present there are 125 additional beds at the Hôtel-Dieu itself, in the St. Charles's gallery, which is now completed.

New buildings have been added to the Necker, and to the Beaujon hospital. The Necker hospital used to contain only 140 beds, but now has 220, making an addition of 80, of which 30 are vacant.

The three new buildings *(pavillons)* at the Beaujon hospital contain 168 beds; two of these additional buildings have been occupied for a long time, and the third for several days. The foundation of a fourth will be laid.

Thus to make up for the temporary loss at the Hôtel-Dieu, we have

House adjoining the Hôtel-Dieu	300 beds.
Necker Hospital.....	80
Beaujon Hospital	168
(besides 56, which are to be in the 4th *pavillon*.)	
Ward re-opened at the Hotel-Dieu	125
	673

Moreover, a new hospital, containing not less than 600 beds, is to be built somewhere in the northern part of Paris; and was voted by the municipal council at their last meeting. Every question of art, of hygiene, and of convenience, is studied, so as to make it as perfect as possible; and next year, probably, this hospital, which is rendered very desirable by the increase of population, will bear witness that misfortune is not forgotten in the distribution of the funds destined for public benefit.

[We are glad to find that the number of beds is now so great, but it is plain that there may have been a deficiency at the time the complaint was made.—*Translator.*]

THE ALDERSGATE GENERAL DISPENSARY.

To the Editor of the Medical Gazette.

Sir,

I take the liberty of sending you a copy of a letter which I published in the Times

of Saturday, and which I shall feel obliged by your inserting in the next number of your journal.

Yours obediently,
JOHN H. HOUGHTON.

To the Governors of the Aldersgate General Dispensary.

My Lords, Ladies, and Gentlemen,

I and other candidates for the office of Apothecary to your Institution having received a letter from your Collector, of which the following is a copy, I take the liberty of submitting it to your notice:—

85, Aldersgate Street,
Aug. 28, 1839.

Sir,—I shall remain at home this evening till nine o'clock, for the receipt of subscriptions.—I am, sir,

Yours obediently,
H. PIPER.

As I cannot conscientiously become a party to the means therein implied for obtaining the office, I beg to withdraw from the contest, and to return my best thanks to those governors who have kindly honoured me with their support.—I remain, my Lords, Ladies, and Gentlemen,

Your very obedient servant,
JOHN HYDE HOUGHTON.

14, Carthusian Street.
Aug. 30, 1839.

COLLEGE OF SURGEONS.

To the Editor of the Medical Gazette.

SIR,

As I know you are at all times willing to use your interest in removing any real grievances in our medical corporations, I venture to address you on the subject of the early hour at which the Library and Museum at the College of Surgeons are closed at present. As they are mostly frequented by young practitioners who are engaged at their own homes in the morning, and at the various hospitals generally till two o'clock or past, the present hour (four) of closing is so early that by the time they can reach the College so very little time is left, that a great many are on this account deterred from making use of these most valuable acquisitions. If they were to remain open till five o'clock, many would, I am sure, benefit by them. If the officers were to come an hour later, it would not be demanding more of their time than at present. Trusting that your noticing it may induce the Council to make such an arrangement,

I am, sir, &c.
A MEMBER.

Aug. 25, 1839.

BOOKS RECEIVED FOR REVIEW.

Medical and Physiological Problems. By William Griffin, M.D. and by Daniel Griffin, M.D. Part 1. Limerick, 1839. 8vo. pp. 114.

A General Outline of the Animal Kingdom, and Manual of Comparative Anatomy. By T. R. Jones, F.Z.S., Professor of Comparative Anatomy in King's College, London. Part 7. pp. 48, with woodcuts.

A Series of Anatomical Plates. Edited by Jones Quain, M.D. and W. J. Erasmus Wilson. Fasciculus 74, containing Division 4—Viscera, 5.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Sept. 5, 1839.

Nathaniel Blaker Turner, Heymer, Sussex.—Samuel Vincent Rice Michell, Redruth, Cornwall. William Scowcroft, Bolton-le-Moor.—George Bagster Denton.—Henry Harding, Taunton.—Richard Higham, Blackburn, Lancashire.—William Henry Miller, Dartmouth.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, *Sept.* 10, 1839.

Abscess	2	Hæmorrhage	1
Age and Debility	19	Hooping Cough	5
Apoplexy	2	Inflammation	12
Asthma	4	Bowels & Stomach	3
Consumption	31	Brain	7
Convulsions	16	Lungs and Pleura	1
Croup	1	Liver, diseased	1
Dentition	6	Measles	6
Diarrhœa	1	Mortification	1
Dropsy	2	Small-pox	2
Dropsy in the Brain	3	Thrush	3
Epilepsy	1	Unknown Causes	47
Fever	7		
Fever, Scarlet	9	Casualties	14
Fever, Typhus	1		

Decrease of Burials, as compared with the preceding week . . . 126

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

August.	THERMOMETER.	BAROMETER.
Thursday . 29	from 56 to 64	29·86 to 29·82
Friday . . 30	57 68	29·77 29·74
Saturday . 31	53 63	29 54 29·22
Sept.		
Sunday . . 1	53 65	29·08 29·10
Monday . . 2	51 63	29·12 29·16
Tuesday . . 3	50 62	29·34 29·54
Wednesday 4	48 65	29·66 29·84

Prevailing wind, S.W.

Except the afternoons of the 1st and two following days, cloudy, with frequent and heavy showers of rain.

Rain fallen, ·6 of an inch.

CHARLES HENRY ADAMS.

NOTICE.—We have received the communication of "Medicus."

WILSON & SON, Printers, 57, Skinner-st., London.

THE

LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 21, 1839.

LECTURES

ON THE

CHEMICAL HISTORY, PATHOLOGY, AND MEDICAL TREATMENT

OF

CALCULUS,

AND THE VARIOUS DISORDERS OF THE

URINARY SYSTEM.

By Dr. Venables.

Treatment of Gonorrhœa—continued.

There is a third mode of treating gonorrhœa, consisting of a combination of the two last; that is, a moderately antiphlogistic regimen at the commencement, and until the violence of the inflammatory action has been subdued. The antiphlogistic measures consist essentially in the exhibition of laxatives and diluents of a mucilaginous nature. When the pain and irritation of the urethra have been subdued or greatly abated, recourse is to be had to stimulating diuretics and astringents, to suppress the discharge, and probably this last method is that most in use; the details it is wholly unnecessary to reconsider.

It may now, perhaps, be asked what is the relative value of the different methods. With respect to the purely antiphlogistic treatment, I know of no bad consequences likely to arise from it. In the first place chordee can hardly occur under this plan, neither will there be much chance of inflamed absorbents, nor of sympathetic bubo. The chance of future organic stricture, too, evidently must be greatly diminished, because the active treatment prevents all those effects of inflammation in which those several consequences originate. The constant envelopment of the penis in the cold lotion will prevent painful erection; the blood-letting will prevent the effusions of lymph and thickening which give rise to chordee and stricture, and will at the same time so reduce the inflammatory action, as to prevent the extension of it to the glands and absorbents. As the inflammation subsides, the discharge invariably abates; and I have known instances in which vigorous antiphlogistic measures at the very commencement had effectually prevented the disease from completely developing itself.

Now let us examine the consequences of the stimulating and astringent plan. One of the most frequent consequences is a total suppression of the purulent discharge without any reduction or abatement of the inflammation—on the contrary, more frequently there is a great ag gravation of the inflammatory symptoms. These are immediately followed by strangury, hernia humoralis, inflammation of the absorbents, or chordee, one or more of which affections speedily ensue. Undoubtedly these immediate consequences do not succeed in every case, but unquestionably sufficiently often to render the practice generally objectionable. Nor are the local consequences confined solely to the urethra and penis; it often happens that the bladder, ureters, and even kidneys, become involved, and I have known instances of bloody urine after large doses of cubebs in an excited state of the urethra in an irritable habit.

With respect to the mixed mode of treatment, even here, if the adoption of the astringent plan be too early, severe consequences ensue, if not directly, ultimately, and at a remote period. Hence, we may have a renewal of the inflammatory symptoms, with suppression or retention of urine. As remote consequences of either the purely stimulant plan, or the moderate antiphlogistic, followed by the astringent mode of treatment, we may have chronic inflammation of the mucous lining of the bladder, in advanced life terminating in

catarrhus vesicæ, organic stricture of the urethra, and indeed almost all the serious consequences which we have already detailed as arising from unnatural irritations of the urinary organs in general.

But a question of less moment certainly than the ultimate consequences upon the health, presents itself here:—Which is the most expeditious method of cure? To this I would reply, that the stimulant and astringent method frequently suddenly suppresses the gonorrhœal discharges, but this is also attended with symptoms so violent, that we are often glad to restore it by poultices to the glans, and by the adoption of every other means calculated to effect this, and we have reason to be well satisfied if they prove successful. The antiphlogistic method is never attended by such consequences, and, therefore, so far will prove the speedier method. With respect to the mixed treatments described above, I was desirous of examining their relative effects, and, therefore, some years since, when in charge of a military hospital, where the facilities for such were great, I selected the first twenty cases of gonorrhœa, and taking them alternately I treated one half on the purely antiphlogistic mode, and the other half by the mixed method. The average duration of the symptoms in the first set was from seven to nine days; in the second it extended to twenty, and many had a purulent discharge for even thirty days or more*. From these facts, and others which I could readily adduce, I am inclined to believe that stimulants and astringent injections, independent of their ultimate effects, are calculated, after a certain period, to excite, or at all events to keep up, a purulent discharge from the urethra; for I have frequently found that a gleet, generated or occurring during the use of an astringent injection, often disappeared spontaneously on discontinuing its use. Upon the whole, therefore, I should recommend the purely antiphlogistic plan as at least the most innocent, but also, in my judgment, the most speedy and effectual. In all cases, whatever plan of treatment you may choose to adopt, examine the urine, and if you find this unnatural, or in any way seriously deranged, you may depend upon it that the antiphlogistic and sedative plan of treatment is the only safe one in such cases.

With respect to certain adventitious or consequential symptoms, I do not think it necessary to consider farther either their nature or treatment here; and indeed I have dwelt perhaps longer on gonorrhœa than may seem consistent with the legitimate subject of these lectures. But I have seen so many serious urinary affections which could be distinctly traced to former though remote gonorrhœal affections, and the irritating treatment, that I considered I should have left the subject imperfect and incomplete if I had omitted to bring it under review.

Of the removal of calculi from the bladder.—This subject, though one of very great importance, yet perhaps is not of such interest to the present subject as to render its consideration at any length necessary. The question, in a medical point of view, resolves itself into whether a removal should be effected. If so, when? and lastly, by what means? The operation of lithotomy should, generally speaking, be performed immediately, if the calculus—no matter what the kind—occur before puberty. It should also be performed if there be a calculus, and the phosphatic diathesis be distinctly present, or if the urine be loaded with pale or white-coloured lithate of ammonia.

In cases of calculus before puberty—no matter what the variety—its removal from the bladder appears to be not only judicious but absolutely necessary, as much and long suffering will be thus prevented, and also the risk at this period is much less* than at a more advanced age. But if the lithic acid diathesis be steadily present, the calculus small, the suffering moderate, and the general health good, then perhaps the operation may be delayed till puberty, because after this period changes frequently take place in the system which rather militate against a return of the disease. But where the phosphatic is the diathesis present, and firmly established, the removal of the calculus appears to be the only alternative.

We have in another part examined the possibility of reducing calculi, and it then appeared that all we could hope for was to prevent the further increase, and there would be great risk in leaving a patient under the above circumstances with a calculus in the bladder. And this observation applies to those cases in which the urine is loaded with pale-coloured lithate of ammonia, which appears to be the indication of the transition to the phosphatic diathesis, under which circumstances the re-establishment of the lithic diathesis is totally hopeless, while a calculus actually exists in the bladder.

There are two modes or methods of removing calculi: the one consists in cutting into the bladder, seizing the calculus,

* The foot note which should have been here was by mistake inserted at p. 898 of last No.

* The tables estimating the mortality from the operation of lithotomy in various situations, and at the different ages, may be consulted in either Marcet's or Prout's works, to which the reader is referred as furnishing the data from which the above inferences are deduced.

and then removing it with the forceps. This operation is now named lithotomy. There is another mode of extracting stone, and which may be said to have been lately revived under a new name — lithotrity*. The relative value or the preference to be given to these two operations depends upon a variety of circumstances, which do not appear to me to be subjects proper for discussion in this place. It now remains that I briefly point out the apparatus necessary for examining the urine, the mode of conducting it, and the inferences to be deduced from the peculiar properties.

Apparatus and chemicals necessary for examining the urine.—The properties of matter may be divided into three distinct series or orders; namely, sensible, mechanical, and chemical. The sensible are those which are determined by the operation of one or more of the five external senses, and consist in the colour, transparency, opacity, odour, taste, tangible properties, &c. The mechanical properties in relation to the urine may be considered as comprehending merely quantity and density. The estimation of quantity may, generally speaking, be left to the patients themselves or their attendants; but the density is determined relatively by what is termed taking the "*specific gravity.*" The specific gravity, therefore, is nothing more than the measure of comparison of the density of a body in relation to some other whose density has been arbitrarily fixed and made the standard of comparison. Distilled water has been considered as the most convenient standard, and has been named unity or 1·000†. There are several ways of determining the specific gravity of fluids. If we could always determine the absolute weights of equal bulks, the specific gravities would be expressed. In fluids this is always easy enough. Thus if we fill a flask with distilled water, and find that the absolute weight of this measure or bulk of water, is exactly, subtracting the weight of the flask, 1000 grains, for instance, and that the same flask filled with mercury, weighs, making the same subtraction, 13500 grains, the specific gravity of mercury, is to that of water as 13500 : 1000, or :: 135 to 1·000. For the specific gravity of urine, however, you may use these glass "hydrometers," as they are called, and which are constructed upon the principle of Dr. Prout's instrumentwhich I present, and which you have seen so often used. All that is necessary is to immerse it carefully and perfectly clean, and free from any air-globules adhering to it: the number on the portion of the stem above the fluid will give you tolerably accurately the specific gravity compared with that of distilled water.

To observe the changes which occur spontaneously in the urine a few phials are necessary, in which portions of the different specimens should be placed, and allowed to stand for the necessary periods, from twenty-four hours to three days, and then we should observe whether it becomes turbid, or evolves carbonic acid, and such other phenomena. The odour, too, ought to be examined after standing, and compared with that evolved on being first passed.

For the purpose of chemical examination we require litmus paper, both of the natural blue colour, and reddened by a very weak acid, with turmeric paper. By these the acidity and alkalinity of the urine may be immediately determined. We further want the following chemicals:—

Nitric acid, to determine the proportion of urea, and also to determine or identify lithic acid.

Hydrochloric acid, to precipitate the lithic acid.

Oxalic acid, to precipitate lime.

Acetic acid, to identify the oxalate of lime, as formerly pointed out, and to acidulate when we wish to precipitate albumen.

Carbonate of potass, to fuse siliceous matters.

Solution of potass, to precipitate the ammonio and earthy phosphates.

Solution of ammonia, for the same purpose.

Solution of ferro-cyanide of potassium, to precipitate fibrin and albumen.

With the above are required one or two watch-glasses, or a platinum capsule; a microscope, or a Coddington lens, will answer the purpose of examining globules; a blow-pipe, and forceps with platinum points; a spirit-lamp, piece of charcoal, ether, and about half a dozen test tubes. These, with a tall jar for taking the specific gravity by the hydrometer, comprise almost all the apparatus essential for the purposes of a general or hasty examination, and may be readily packed up in a small portable case or pocket-book, so that a great deal may be determined at once.

The first question is, which of the uri-

* Si quando autem is major non videtur, nisi rupta cervice, extrahi posse, findendus est; cujus repertor Ammonius, ob id λιθοτόμος cognominatus est. Id hoc modo fit. Uncus injicitur calculo ut facile eum concussum quoque teneat, ne is retro revolvatur, tum ferramentum adhibetur crassitudinis modicæ, prima parte tenui, sed retusa, quod admotum calculo, et ex altera parte ictum, eum findit; magna cura adhibita, ne aut ad ipsam vesicam ferramentum perveniat, aut calculi fractura ne quid incidat.—*Cels. de Med.* lib. vii. cap. 26.

† For fuller details the reader is referred to the author's Manual of Chemistry, where the subject is treated of more at length.

nary organs is the seat of the disease. If we wish to determine the operation of the the kidneys, we should select the urine first passed in the morning. That passed after a meal is often influenced by the state of the digestion; and where we wish to examine into the state of this function, such urine will often throw considerable light upon it. We have already pointed out that if the urine be diseased, but contain neither mucus, pus, nor blood, that we may conclude that the kidneys are the seat of the affection. If the urine contain mucus or pus, but be otherwise natural, then we may look upon the bladder as exclusively the seat. When the urine is unnatural, and contains mucus or pus, then both the kidneys and bladder are affected.

We next come to consider the inferences to be deduced from the sensible properties, and first—

Yellowish urine, such as this, almost invariably denotes jaundice. This colour, however, as well as the next, is best observed in a thin stratum and in an opaque vessel, such as a porcelain evaporating dish. If the stratum be deep, or the body of urine great, the whole presents a dark appearance, which completely obscures the yellow and pink tints.

Copper-coloured urine, and becoming remarkable transparent after cooling, is generally not only acid, but also indicates a strong tendency in such urine to deposit lithic acid in the *crystallized* form, as a *gravel*: this condition should not be neglected.

Citron-coloured or *yellowish* urine remarkably *transparent*, and having an *acidulous* reaction, denotes a tendency to, if not actually the existence of, the *oxalate of lime* diathesis, and the deposition of this principle. When such exists great care and attention should be paid in observing the symptoms.

Pale straw-coloured, or of a *bluish green* tint, transparent when first passed and remaining so after, and having a smell of new mown hay, indicates the presence of sugar, and denotes the disease diabetes. *Opalescent*, oily-looking urine, having a peculiar animal odour intermixed with that of the sweet or wild briar, indicates almost unequivocally the *cystic oxide* diathesis. *Pale-coloured wheyish* looking urine, somewhat opaque even when passed, and with a strong urinous smell, is mostly *neutral*, but speedily becomes *alkaline*. These properties indicate a very strong tendency to deposite the *phosphates*.

Urine perfectly transparent when passed, but becoming cloudy on cooling, and precipitating a sediment, or becoming clear after filtration, shews an excess of lithate of ammonia. Urine cloudy when passed, or continuing so after filtration, but after boiling becoming clear, and depositing a sediment, indicates the presence of mucus, pus, or blood, separately or altogether.

Quantity—By itself can hardly be said to indicate any peculiarity of disease; it is only in connection with other circumstances that it can be made subservient to any useful purposes; and enough has been already advanced upon this subject, which need not now be recapitulated.

Specific Gravity.—This is one of the most important characters of the urine, and is of itself almost sufficient to determine many points of great moment. A diminished or increased specific gravity must depend upon the proportion which the saline principles bear to the watery portion of the urine. Urine of a low specific gravity, as 1·010, if of the ordinary colour and transparent, and at the same time abundant, indicates a nervous or hysterical constitution of body, with a tendency to spasm. If of the same gravity, or even lower, and opaline or of a wheyish colour—such as you see here—there is a strong predisposition to phosphatic depositions, and such urine speedily becomes alkaline. Urine, however, of a phosphatic character, has often a much higher specific gravity, 1·020 or 1·025, and then it contains urea in excess, which, undergoing decomposition, becomes converted into carbonate of ammonia, thus increasing the phosphatic deposition. When the specific gravity is much above 1·017, and the colour deepened, inclining to red, or high coloured, as it is termed, it indicates a feverish tendency, with indigestion and derangement of the functions of the liver. Urine of a specific gravity, varying between 1·025 and 1·030, of a colour somewhat like ale, with a diuresis and frequent micturition, mostly indicates an excess of urea, and a strong tendency to diabetes. A specific gravity of 1·030 and above, transparent, and of a pale straw or of a bluish green colour, is an almost certain characteristic of diabetes. This urine will be found to have the peculiar smell of diabetic urine. If the specific gravity be only about 1·030, you will find that such urine is sometimes sweet, sometimes saline. These differences depend upon the sugar and the urea alternating with each other. When the urine is strongly saline or bitter, the urea will be found abundant, and the sugar proportionally deficient, and *vice versâ*. In such cases there is mostly distinct diuresis; but as I have already shewn diuresis is not an essential of this condition. Such are the principal inferences from the sensible and mechanical properties of the urine.

Application of reagents.—By these means we determine the relative proportion of the soluble, or principles held in solution,

to the solvent; and from the reagent itself and its mode of action, we can often determine the nature or variety of the principle. If urine be of high specific gravity, and presents certain appearances, as already stated, we may suspect an excess of urea, which we must determine by means of the test. We have already shewn this sufficiently; but here I must give you a caution. In some peculiar conditions of the urine, the urea, though very abundant, will not crystallize with the nitric acid. The cause of this I have not been able satisfactorily to determine; still the fact is certain. Here is urine, the specific gravity of which is 1·022, and it contains an excess of urea. Here is a portion in the capsule to which nitric acid has been added, and, although this is the fourth day, yet no crystallization has taken place. But here is another portion of the same, which has been standing for about ten days, and you see there is a most abundant crop of crystals, far exceeding the proportion which ten times the whole contents of the capsule of healthy urine ought to furnish; but there you see it crystallizes at last upon the slow and spontaneous evaporation of the watery portion. Thus when you have a specimen of urine of high specific gravity, and for which you cannot otherwise account, you may discover an excess of urea* by the action of nitric acid aided by the urine being placed in circumstances favourable to its slow and spontaneous evaporation. In some instances I have found oxalic acid crystallize the urea speedily when the nitric would not—anomalies for which I cannot account.

Sometimes on adding nitric acid to the urine it becomes turbid, though previously clear and transparent: this arises from the presence of chyle or albumen, which are coagulated by the acid. Perfectly transparent urine also may be sometimes rendered turbid by a very small proportion of nitric acid; this turbidity depends upon a different cause. If the urine be loaded with lithic acid held in solution by an alkali, as ammonia or potass, the addition of nitric acid, not in excess, will, by combining with the alkali, liberate the lithic acid as a cloudy mass, which, as it slowly and gradually subsides to the bottom, assumes a crystalline appearance. Any of the acids will have the same effect; examples of which you see in the present instances.

Urine which is cloudy at first, but becomes transparent on the addition of the nitric, hydrochloric, or acetic acid, owes this appearance to the mechanical suspension of the phosphates. Such urine is generally pale coloured. This urine may be rendered almost transparent by filtering. If the precipitate collected on the filter be heated before the blowpipe its nature may be determined. If it fuse it is either the triple or fusible phosphate. If it merely blackens, then becomes white, without any alkaline properties, it may be looked upon as phosphate of lime. If it become alkaline it is probably carbonate of lime, which may be readily determined by adding a few drops of acetic or hydrochloric acid to the pulverulent matter collected on the filter: effervescence will follow the addition of the acid.

There is also a semi-opalescent appearance in pale-coloured urine, which may be mistaken, or at least its cause, by casual observers. It frequently deposits a light flocculent cloud, which may be mistaken for the insoluble earthy salts, but more readily for mucus. The acids do not render this urine transparent by dissolving the suspended matter; but, on the contrary, by increasing the specific gravity of the urine, render its suspension more permanent and complete. The alkalies, by precipitating the earthy salts, causes perfect transparency, for the subsiding salines carry down this suspended matter. In general, however, the urine becomes transparent on standing for twenty-fours hours; and a light, bulky, flocculent cloud, occupying a considerable portion of the length of the jar, is seen occupying the lower portion, while the supernatant urine is above perfectly clear and transparent, unless it be very prone to decomposition, when the separation of the earthy phosphates renews the turbidity. Here you have examples of urine of this sort under each of the circumstances above mentioned. The spontaneous precipitate consists chiefly of *epithelium*, described in a former lecture, and the properties of which you may now again observe in the field of the microscope.

Lastly, there is another form of amorphous sediment mechanically suspended in pale-coloured, cloudy urine, and which might be confounded with the earthy salts — pale-coloured lithate of ammonia. Sometimes it constitutes the entire sediment; sometimes it is intermixed with the phosphates or other insoluble earthy salts. If hydrochloric acid does not dissolve any or the whole, the residue may be considered as lithate of ammonia; or, if the hydrochloric acid has been in too great excess, as lithic acid deprived of its ammonia. But it will be dissolved by pure potass or by its carbonate, which the

* If the nitric acid be in excess, that portion which has not been neutralized by the alkali will react upon the lithic acid the moment it has been disengaged, and will redissolve it. But this occurs only with the nitric acid; with all the others the lithic precipitates, and becomes crystalline.

earthy salts would resist — examples of which you may now observe. Carbonate of lime sometimes appears as an amorphous sediment: it can be easily recognized. Such are the principal facts which I wished to bring before you in reference to the examination of the urine, which, though in part a recapitulation, yet I thought of sufficient moment to attract your attention.

I have now, gentlemen, performed the task which I had proposed to myself at the commencement of these lectures. I may, perhaps, appear to have dwelt upon the subject at greater length than was necessary; but I think those who have favoured me with their attendance will acquit me of this charge. You must have witnessed enough to convince you of the extreme utility of attention to this class of diseases; and, if I have in any way contributed to heighten your zeal, to direct your operations, or in any manner to diminish the difficulties of such inquiries, I shall consider myself as amply compensated. I now beg, in taking my leave, to wish you every success—both in your present occupations, and in the future exercise of your profession.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.

By J. Henry Bennet, B.L. & B.S.
Sorbon.

SEQUELÆ AND COMPLICATIONS OF KERATITIS.

Softening of the Cornea.—Gangrene.—Vegetations.—Abscesses.—Ulcers; the nephelion; the lymphatic or plastic ulcer; the bothrion; the epicauma or burning ulcer; the incised ulcer.

Whenever a tissue becomes inflamed, the cohesion that exists between the elements of which it is formed, is always more or less diminished, according to the nature of the tissue. It is not, however, to this phenomenon, which is too general and too well known to require comment, but to a peculiar form of softening of the cornea—a form which has not yet been sufficiently studied by authors, that I wish to draw your attention.

After inflammation of the cornea, the tissue of that organ softens in some instances to such an extent, that its form may be entirely altered. Thus, M. Mirault mentions a case in which the pressure of the eyelids caused the cornea to lose its convex form, and to become perfectly flat. It may be pressed forwards, and become elongated, so as to hang between the eyelids, as in a case of M. Stæbers. It may also project, and assume a conical figure, when the softening occupies the centre, or form a half transparent yellowish brown tumor. When the softening is only partial, and exists in different parts of the membrane, you will sometimes see on its surface several tumors, which appear, by their brownish colour, as if formed by the iris. Some cases have even been observed in which the softening of the cornea was so great, that its form changed under the influence of muscular contraction.

I have occasionally met with a species of softening of the cornea, which is but imperfectly known; indeed, I do not know whether it has ever been properly described. The cornea, the tissue of which has become extremely rarefied, forms between the free margins of the eyelids, a black, brown, or reddish tumor, projecting like a large staphyloma of the iris. This tumor is soft, insensible, and radiated. I first observed it in two women, nurses at the Hôpital de la Maternité, who were both affected with a chronic vaginal discharge. They were both of a lymphatic constitution, deteriorated by poverty and bad living, and had been attacked without any appreciable cause, with violent purulent ophthalmia. The flaccidity of the muscles, the copper-coloured appearance of the face, and the vaginal affection, led me to suppose that they were affected with syphilis, although they positively denied this to be the case.

These various forms of softening of the cornea are nearly always attended with serious consequences to the functions of the eye. The cornea being generally more or less deformed, even in the most favourable cases, vision is necessarily disordered.

When the disease does not depend on a specific cause, astringent collyria constitute the best medication. If, on the contrary, the affection appears to be of a specific nature, the treatment must be modified accordingly. Thus, in the cases I have just mentioned, emollient and astringent applications having failed, I had recourse to antisyphilitics. This treatment very soon arrested the progress of the disease, and, by then cauterizing with the nitrate of silver, the cure was completed.

Gangrene of the cornea, considered merely as the consequence of inflammation of that membrane, is of extremely rare occurrence, so much so, indeed, that I have never yet met with a case. Saunders, it is true, says that he has often seen keratitis followed by gangrene; but the cases he brings forward, as also the facts mentioned by Mr. Lawrence, appear to me to apply more to suppuration and softening of the cornea than to gangrene of that organ. Beclard and M. Mirault in France have, however, each published a case in which

the gangrene certainly appears to have been the consequence of inflammation. If we are to look upon all these cases as being really instances of gangrene, we may conclude, that, existing as a termination of keratitis, gangrene does not always give rise to the perforation of the cornea, as the superficial lamellæ only may be disorganized. An albugo, or leucoma, is, however, the necessary consequence of such a lesion.

After keratitis, *vegetations* are occasionally seen on the cornea. The situation, and aspect of these vegetations are exceedingly variable: sometimes they occupy the circumference of the cornea; sometimes they are only met with on the centre of that membrane. When they are situated near the circumference of the organ, they may either entirely surround it, or merely shew themselves on a segment of its margin. They advance more or less on the cornea, are of a greyish or reddish colour, of variable size, and have the flattened, granular appearance of the papillæ of the tongue. When they appear in the centre, their size is smaller and their colour less vivid. They may either be separate or clustered together.

The only rational mode of treatment that can be resorted to consists in excision and cauterization. If the vegetations are small, cauterization with the nitrate of silver is generally all that is required; if they are large and hard, they should be excised with a lancet or a cataract needle, and the exposed surface then cauterized.

Under the name of aphthoïdal papulæ I have sometimes described to you a species of vegetation which I have often observed, and which I think constitutes the *poros* or *porosis* of surgical writers. These papulæ, which are generally found at the union of the sclerotica with the cornea, occupying the extremities of the transverse diameter of the eye, have the appearance of a variolous pustule. M. Sichel, who looks upon them as indicating scrofulous ophthalmia, says, that they are never seen beyond the limits of the sclerotica. This assertion, however, is not correct, for I have seen them on the surface of the cornea, as far as two lines from its circumference. When they appear near the edge of the cornea they are hard, adherent, of variable size, of a pale red colour, and seem formed by the conjunctiva and the cellular layers immediately underneath. The summit of the papula soon becomes flattened, depressed, and assumes a yellowish tinge, having exactly the same appearance as the aphthæ of the mouth. Those which are met with on the cornea are generally narrow, and form the summit of a vascular triangle or pyramid. These papulæ have been described by some authors as ulcers, although, in reality, they are but simple aphthæ; the excavation which they present not depending on loss of substance, but on thickening of their parietes. Mr. Wardrop says that they are most frequently met with in winter, and in cold wet weather; I have myself seen them in every season of the year.

The presence of these papulæ, which generally disappear with the inflammation which has given rise to them, is not attended with any danger. The astringent collyria, dry or liquid, nearly always prove sufficient to effect a cure; but cauterization with the nitrate of silver is decidedly the most efficacious remedy.

Abscesses.—When the cornea is inflamed, of a white, semiliquid, puriform matter eff occasionally takes place between the lamellæ of that membrane, as most of you, no doubt, have frequently had an opportunity of observing. There has been much discussion to ascertain whether this matter, which Scarpa calls *concrescible lymph*, is of a purulent nature or not; or whether, indeed, the cornea is susceptible of suppuration. In my opinion the dispute is merely one of words. Each tissue may be said to have its own mode of suppurating. The suppuration of a mucous or of a serous membrane does not, as you are well aware, furnish a pus exactly similar to that which is produced by the suppuration of cellular tissue or of the skin. Is it not, therefore, perfectly rational to allow that suppuration of the cornea may present peculiar characters—characters which are not met with in the suppuration of other tissues? In short, it is of but little importance whether the matter be called pus or coagulable lymph, provided the characters which it presents, when effused between the lamella of the cornea, be carefully noted.

These abscesses nearly always exist as sequelæ of interstitial keratitis. Their characters differ, according as they are situated near the sclerotica, or in other parts of the cornea. When they do not occupy the circumference of the organ, their form, size, and position, may vary considerably. Sometimes they are globular, sometimes they are flattened; their size is generally about that of a millet-seed: In some instances, however, they appear under under the form of yellowish patches, of variable size, surrounded by an opaline areola. They may occur in any part of the cornea, but are more frequently met with in its lateral and inferior regions, than above the pupil. If the abscess is superficial it soon opens externally; if, on the contrary, it is deep-seated, several weeks may elapse before such an event takes place; nor does

always thus terminate. The posterior lamellæ of the cornea may be perforated, and the abscess empty itself into the anterior chamber; this is, however, seldom the case. It is generally considered advisable not to open these abscesses, but to allow them to open spontaneously. Such is certainly the most rational plan, but I am inclined to think, from several experiments which I have made, that the incision of an abscess of the cornea is scarcely ever attended with serious consequences; that it is not dangerous, as has been asserted, but merely useless. That the operation should be useless is easily accounted for, when we consider that the matter which forms the abscess, being half concrete, and extremely adherent to the tissue of the cornea, does not escape through the opening which has been made; but, when the abscess is of a certain size—when it is situated opposite the pupil—and does not seem likely to open alone, it is necessary to use the lancet, as its desiccation might give rise to a permanent opacity of the cornea.

When abscesses of the cornea appear near the sclerotica, they assume a semilunar shape, and have received the name of onyx, from the resemblance which has been found between them and the lunula which is seen at the attached extremity of the nails. Some authors have asserted that they are only met with on the inferior segment of the cornea, but this is not correct, as I have seen them on every portion of its circumference. These abscesses frequently terminate by resolution, but sometimes they extend, on the contrary, in such a manner as to give rise to purulent infiltration of the entire organ. They may open externally, in which case they are followed by a deep incised ulcer, or internally into the anterior chamber, thus giving rise to hypopium. The treatment of this class of abscesses is the same as that of the preceding, with the exception that the use of the lancet seems really to retard the cure. Every thing must be done that is calculated to promote the resolution of the effused matter. The remedies which are likely to produce this effect are those which are employed in the treatment of acute keratitis.

Ulcers of the cornea constitute an important complication of keratitis, and have ever attracted great attention from ophthalmologists. They are generally the consequence, but may also be the cause, of acute inflammation of the cornea, and as a thorough knowledge of their various modifications may throw some light on the treatment, I intend to study them with care. On examining attentively the various ulcers which are observed, and on taking into consideration their seat, and their mode of development we may, I think, establish five species, the characters of which are sufficiently striking to distinguish them easily from one another. In the last century, many more were described by surgical writers, but those which I am about to enumerate comprise all the forms of ulceration which are really met with in practice. They are as follows:—

The nephelion.
The lymphatic or plastic ulcer.
The bothrion.
The epicauma or burning ulcer.
The incised ulcer (*en coup d'ongle.*)

Were the depression occupying the summit of the papulæ, which I described when speaking of vegetations of the cornea, to be considered as an ulcer, we should have to admit a sixth species; but you are well aware that the papulæ in question are merely aphthæ, the product of diphtherical inflammation.

The *nephelion* is an extremely superficial ulcer, and generally appears on the centre of the cornea. It is seldom single, several ulcers of the same species being nearly always clustered together. There is also nearly always a slight effusion of lymph between the lamellæ of the cornea around the ulcer, which renders it extremely difficult to distinguish it from a nebula. If, however, you examine the cornea attentively with a lens, or even with the naked eye, you will find in the centre of the slight opacity one or more small excavations in the form of a cupola. This kind of ulcer, called by the ancients *achlys* or *caligo*, is principally met with in children and young people. It is rare in persons above thirty, and is never seen in those who are above forty.

When an abscess, or a collection of coagulable lymph formed between the lamellæ of the cornea, opens externally, the small wound to which it gives rise constitutes what has been called the plastic ulcer. This species of ulcer is more frequently met with in practice than any other. The size varies from that of a pin's head to that of a millet-seed. The edges are jagged, irregular, festooned, and the bottom is uneven. It is slow in cleansing, and the tissue of the cornea being consequently protected from the contact of the air, there is less photophobia or epiphora than in the other forms of ulceration. It is worthy of remark, that the opacity to which the plastic ulcer gives rise, is generally more extensive and deeper seated than that which follows other ulcers. When it is situated near the circumference of the cornea, it generally rests on the summit of a vascular patch of a triangular or

pyramidal form, the basis of which is on the conjunctiva. The vascular patch, which at first might be taken for pterygium, is sometimes thick and moveable; sometimes, on the contrary, it is thin, or seems to belong entirely to the cornea. The plastic ulcer is considered to be one of the characters of scrofulous ophthalmia. It is more especially observed, it is true, among young people and persons of a scrofulous constitution, but this is by no means a general rule. The numerous cases of the plastic ulcer which we have had lately, or have yet, in our wards, must have proved to you that it may occur in all ages and in all constitutions.

The *Bothrion* ulcer commences by a phlyctena, which, being nearly transparent, often passes unperceived. In the course of a day or two this phlyctena breaks, and is succeeded by an excavation. The ulcer which is thus formed may be either superficial or deep-seated. When it is superficial, it is generally of a circular shape; when it is deep-seated, it often assumes the form of a tear, with the point turned outwards. The bottom is transparent, and differs so little from the tissue of the cornea, that when the ulcer is superficial, it is often only by looking at the eye sideways that you can discover its presence. The small vessels which are distributed to the neighbourhood of the ulcerated surface, arise from the deep-seated vascular layer. These vessels are often larger and more numerous around the ulcer than on the sclerotica, and sometimes appear all to arise from a common trunk, which is plainly seen on the margin of the ulcer. The dread of light, and the shedding of tears, are carried to a greater extent in this form of ulceration than in any other.

The progress of these ulcers is rather singular; the vascular injection of the cornea and other tissues of the eye gradually diminishes, and at last disappears, as likewise the photophobia and epiphora. The ulcer, however, still retains the same excavated appearance, and often remains in this state for a considerable length of time; the slight cavity it forms may even become indelible, in which case the patient is continually exposed to a renewal of the inflammation.

In this, and in the preceding form of ulceration, the tissue of the cornea is sometimes entirely destroyed. When this is the case you will see a small bulla arise gradually from the bottom of the ulcer, until it slightly protrudes on the free surface of the cornea. The small tumor or myocephalon, which is thus formed, is owing to the hernia of the membrane of the aqueous humor, and must not be confouned with hernia of the iris, or the true myocephalon.

The *Epicauma*, or serpiginous ulcer, thus denominated by the ancients, and described by Ware under the name of abrasion of the cornea, at first certainly bears much resemblance to an excoriation of the superficial lamellæ of that membrane than to a real ulcer. It is often met with in acute keratitis, when it appears under the form of a slight abrasion of the cornea, sometimes several lines in width, which is generally situated near the circumference of the organ, and which gradually advances towards the centre, without, however, ceasing to be superficial. In some instances, I have known it occupy the entire circumference of the cornea, the central portion only remaining intact. Were I to be guided by my own experience, I should say that the superior half of the membrane is more especially the seat of this kind of ulcer. If the epicauma in this, its first period, be left to itself, it gradually sinks deeper into the tissue of the cornea, and at last assumes the appearance of a real ulcer. When there are several of these ulcers present at the same time, the aspect of the cornea is peculiar; it appears as if it were covered with facets. There is little or no vascularity of the subjacent tissue of the cornea, or of that which surrounds the ulcerated surface; the conjunctiva on the contrary is, generally speaking, considerably vascularized. There is, nearly always, considerable photophobia and epiphora; but the intensity of these symptoms varies with the depth and extent of the lesion. The pain, which is often severe, is superficial, and does not irradiate to the orbit. When the ulcer is healed, there remains a slight opacity of that part of the cornea on which it was situated, and vision is consequently more or less disordered; but this opacity diminishes with time, and sometimes disappears entirely.

The *incised* ulcer, although not separated from the other species of ulcers by the ancients, is well worthy of a separate description. It has been described with care by Mr. Lawrence, in his work on Venereal Diseases of the Eye, as a symptom of venereal ophthalmia; I have, however, often met with it, when I could not possibly attribute it to a venereal affection. This ulcer is nearly always found at the circumference of the cornea, near the sclerotica, in the same situation as the senile zone, under the form of an arc of a circle, from one to four lines in length, but scarcely ever more than a line in width. It has two lips or edges, which do not offer the same characters. The outer or sclerotic lip appears as if it had been cut perpendicularly, and is red and vascular, owing to its being formed in a great measure by the conjunctiva, which is thickened and injected. The

inner lip, on the contrary, is slightly bevelled, and remains at first perfectly transparent, unless there be suffusion of that portion of the cornea. In a short time, however, vascular filaments appear in the tissue of the cornea underneath and around the ulcer; you will even sometimes see vessels perfectly isolated in the ulcerated cavity. This kind of ulcer never advances towards the centre of the membrane; its depth, however, gradually increases, and the arc which it forms extends progressively along its circumference. When there are several, they may unite so as to circumscribe and isolate the cornea entirely. The incised ulcer is always accompanied by photophobia and epiphora; these symptoms are, indeed, often very intense. It gives rise to vegetations of the cornea more frequently than any of the other species of ulcer.

The various species of ulcer, which we have thus briefly examined, are nearly always the result of keratitis. They may, however, in some instances, be the cause of the inflammation of the cornea; as, for instance, when a metallic particle, flying into the eye, becomes implanted into the cornea, and, on falling, leaves behind it a bothrion ulcer.

The characters which I have given you, if borne in mind, will always enable you to distinguish these ulcers from one another—a point of great practical importance in the treatment of ulcerated keratitis, for you must not suppose that the distinctions I have established are merely theoretical.

OBSERVATIONS

ON

COMPLICATED SURGICAL INJURIES,

INCLUDING GUN-SHOT AND OTHER WOUNDS.

By Rutherford Alcock, K.T.S. &c.

Late Deputy Inspector-General of Hospitals with the Auxiliary Forces in Portugal and Spain.

(*As delivered in his Lectures at Sydenham College School of Medicine.*)

[Continued from page 918.]

IV.—INJURIES OF ABDOMEN, PELVIS, AND GENITAL ORGANS.

Injuries of the abdomen—Consequences of superficial wounds—Case of fatal result—Sympathetic action of stomach—General symptoms and effects of all abdominal injuries—Absence of diagnostic signs to injury of particular organs — Lesion of stomach—Case of recovery—Wounds of intestines—Principles of treatment—On the use of sutures—Cases of ruptured liver, spleen, pancreas, kidneys—Mere penetrating wounds—Sacculated ball in omentum—Knife wounds—Extraordinary case of recovery—Occasional consequence—Observations on treatment—Wounds of the pelvis and genital organs—Lesion of bladder—Urine not necessarily extravasated —Case of great injuries to bony walls of pelvis—Indisposition to extend inwards to cavity by inflammatory action—Two parallel cases—Dissimilar results—Principle illustrated by them—Simplicity of progress in injuries of genital organs—Cases of wounded testicles and urethra—Conclusion.

The peritoneum is exceedingly prone to take on a high inflammatory action; hence all injuries from the parietes to the contents are of great importance. The same classification of these injuries will hold good as in those of the thorax; and, indeed, it not seldom happens that a mere superficial wound induces all the worst effects of the gravest injury. Take the following case as an example:—

Corporal Jones, October 1, 1836, was struck by a musket-ball, about an inch above Poupart's ligament, a little internal to its centre, making a horizontal slit of the integument, two-thirds of an inch in length. It appeared to have penetrated the fascia and muscles, and proceeded a little downwards and inwards. The finger was introduced the whole apparent length of the wound, and the iliac vessels distinctly felt; but no ball could be detected. The peritoneum seemed uninjured; no tendency to protrusion of the intestines, nor could they be felt by the finger.

Shortly after his admission, considerable reaction came on. A large bleeding was practised; an antimonial mixture, with a slight opiate, ordered, followed by a dose of castor oil, which, in a few hours, operated twice: after which he passed an easy night, and, on the succeeding morning, he felt no pain, tension, or tenderness of abdomen; pulse about 90; tongue slightly furred.

It is unnecessary to detail to you day by day the progress of the case; it is enough to say that, up to the fourteenth day, no one unfavourable symptom presented; wound suppurated, and was closing kindly; health good. On that day, however, he had a foul tongue; pulse was 66; skin dry and hot; bowels confined. Small doses of sulphate of magnesia were ordered; and, on the succeeding day, he was reported to have passed a very restless night; purging

and vomiting had supervened, and for the first time pain of the lower belly increased by coughing or pressure. An emollient cataplasm was applied to the wound; the patient was freely bled; and calomel and opium ordered every second hour.

17th.—The aspect a little improved, diarrhœa less frequent, and states that he felt a marked relief after the bleeding; pulse fuller, softer, 110; tongue loaded with brown fur; still pain on pressing the abdomen, but slighter than on the previous day; much thirst; no appetite; the pain referred to the umbilicus, and increased by the patient's turning from side to side.

V. S. ad ʒxij. Contin. pilulæ.

18th.—Great inclination to vomit.

Acet. Morphiæ, gr. ¼.

19th.—Pulse 104; the diarrhœa has ceased, and there is diminution of pain in the abdomen when pressed; sleepless; tongue foul; some tension of belly; countenance and lips of a slightly leaden hue; breathing hurried; and countenance anxious. Towards evening he became much worse.

20th.—The irritation and symptoms of peritonitis have disappeared in a great measure; some slight tension of the abdomen, but no pain on pressure or vomiting. The pulsations of the heart are quick, violent, and extending over a greater space than natural. Pulse small and quick; lips slightly livid; breathing more hurried; anxiety; and pain of chest near the region of the heart, to which he refers all his sufferings. In the morning, a quantity of green thin fluid was discharged without an effort from the stomach. He sunk and died on the 22d day.

On examination after death, great swelling and tension of abdomen was observed. The wound was unclosed. A similar fluid to that discharged several times before death, with little effort of vomiting, flowed from mouth and nostrils whenever the head was moved.

Cavity of abdomen.—Acute inflammation of the peritoneum generally might be traced; lymph had been effused in great quantity, and caused adhesion between the convolutions of the intestines. The adhesions were recent, and easily separated. Opposite to the wound there was a black circumscribed spot on the peritoneum, indicating approaching gangrene. Similar appearances were visible on the peritoneal coat of the intestines, and in the intestines themselves. A large quantity of serum was also found effused in the cavity. The ball was searched for in vain, and the presumption was that it had not lodged nor penetrated farther than described by the examination with the finger.

The mucous membrane of the stomach, towards the pylorus, was more vascular than natural; that of the smaller intestines presented slight traces of inflammation. Serous effusion had taken place in the pericardium.

I prefer dwelling on this case to enumerating others; I shall, therefore, particularly direct attention to it, the more fully to impress on your minds the true principles of treatment to be adopted in wounds of the abdominal parietes.

There was here no opening into the cavity: it seems more than probable the ball had not even lodged; still it was in the close neighbourhood of the peritoneum, and it would not have seemed extraordinary, from the proximity of the wound and the serous membrane, if peritoneal inflammation had immediately set in; but, with the exception of a short period of reaction and general disturbance, immediately checked by the treatment, not even the remotest evidence of danger was afforded until the fourteenth day. Let this fact, then, impress you with a conviction of the necessity of a guarded diagnosis on the one hand, and the vigorous adoption, from the first hour, of all measures calculated to arrest or prevent the development of inflammatory action; and always remember, that abstinence, perfect repose, and a due action of the skin, bowels, and kidneys, are among the chief and best of preventive measures.

Passing on to the period comprising the fatal and inflammatory stage (from the 14th to the 22d day, a space of 9 days), you can scarcely fail to remark the sudden supervention of all the unfavourable symptoms, and how distinctly they marked the nature and intensity of the action. The first day gave simple pyrexia, a febrile action, hot dry skin, foul tongue, restlessness, confined bowels, &c.; the second pointed to the development of inflammation in the peritoneum in the lower portion of the abdomen, and in the mucous membranes generally of the alimentary canal. Thus, there was pain on pressure or coughing, re-

ferring to the serous membrane, while purging and vomiting pointed to the mucous tissue. The wound; which hitherto had been suppurating kindly, and gradually closing, immediately sympathized; the healing process stopped, and made not the least progress up to the date of his death. This also shows that, however much the wound might be the cause of all the mischief, it was remotely, not immediately; not by the extension of a bad action to the neighbouring serous membrane, but by some more subtile influence. This is the most remarkable feature of the case, and which I am most anxious you should not overlook, and thus pronounce your patient out of danger, because no peritoneal inflammation supervening for the first few days, and the wound gradually healing with a healthy action, the danger seems passed of any immediate and direct unfavourable action being communicated from the site of injury to the neighbouring cavity.

The serous effusion in the pericardium, and the corresponding effect on the heart's action towards the close of the case, I should attribute to that sympathy of action between all similar tissues throughout the body. Thus the peritoneum taking on the action of morbid effusion, the pericardium, possibly by the sympathy described, took on the same.

The treatment adopted in this case, slightly as it is indicated, is the one I would recommend. To correct inflammation of serous membranes, and to stimulate the absorbents, thus preventing accumulations of fluid, no medicine is so effective as calomel and opium combined, and employed in such doses as in ordinary cases in a few days will induce a gentle ptyalism. Bleeding was also resorted to at once, and subsequently guided by the states of the pulse; an occasional opiate of morphine to control irritability; emollient and tepid applications to the wound, with the use of gentle purgatives. These are the chief means, judiciously applied, on which I would have you rely for the relief of your patient under such circumstances.

One of the effects observed in this case is not unusual in all lesions of the abdominal cavity or parietes—viz. a sharp inflammatory action sympathetically developed in the stomach.

In all serious injuries of abdomen the stomach is generally implicated—not always inflamed, but displaying by the constant ejection of the contents a morbid irritability developed to a great degree.

Penetrating wound of abdomen, producing sympathetic action of stomach.

Michael Dennany, æt. 34. Sanguineo-bilious temperament. Wounded Oct. 1, 1836, by a musket-ball, which struck him immediately below the scrobiculus cordis, and entered the cavity of the abdomen, near the edge of the diaphragm. Immediately succeeded by great distress and painful breathing. On admission a few hours after, the pulse was soft, rather quick, but not full; considerable tumefaction about the wound. Cold lotion was applied, and small doses of sulphate of magnesia prescribed. Spoon diet.

2d day.—Vomited, during nearly the whole of the previous night, a fluid of an intensely bitter taste, having all the appearance of bile. Distress of breathing great, and he was suffering much pain; pulse small and quick; skin cool; bowels confined; swelling about the epigastric region considerable; protrusion of the omentum.

℞ Magn. Sulph. ʒiv.; Pot. Carb. ϑj.; Aquæ, ʒij. M. ft. haust. cum cochl. succi limonis 3tiis hor. sumend. Barley-water.

3d.—Passed a restless night, and felt very ill. Breathing painful; tongue moist; tension of bowels less; not much pain on pressure; bowels open; no return of sickness.

4th.—He improved.

5th.—Better; not much pain; bowels soft; pulse small and not quick; tongue clean; respiration easy.

7th.—Had a better night than any since wounded; breathing free, and no pain during respiration; pain on the right side below the mamma; bowels open; pulse soft and tranquil; countenance improved; granulations were going on, and wound filling up; no protrusion.

From this period may be dated his permanent improvement and gradual recovery. Once or twice for twenty-four hours pain and uneasiness in stomach returned, all his other symptoms indicating injury or disease of lungs and liver. He was invalided in December of the same year, three months after receipt of injury, with the following note of his state:—

"Dec. 31st.—The wound, which is at the outer edge of the umbilicus, is soundly healed up, and no protrusion. He complains that he cannot and never has been able since wounded to lie upon his right side, from pain under the false ribs. He has always pain when he stoops, in the same place and in the loins. He has also night sweats, and a troublesome cough, which pains him from the site of his wound round to the spine; his expectoration is reported to contain some pus. From his account, and the symptoms, the ball would seem to have lodged in the right lobe of the liver, possibly having also injured the lungs Pulse rather weak, but regular; appetite good."

This, as a complicated case, the exact nature or extent of the injury unascertained, and situated in the epigastric region, probably less distinctly illustrates the point under consideration than a more distant injury. This sympathy of the stomach is, however, rarely absent in any severe injury of the intestines, or even of the parietes; it is observed in strangulated hernia, and in all cases where there is a wound of intestine. It seems a wise provision of nature to prevent the stomach receiving matters, the passage of which through the wounded parts, or their effusion into the cavity, would be productive of mischief; nay, when the stomach itself is wounded, this rejection of all food, &c. conveyed to it ceases often at an earlier period than when an opening is made into a fold of intestine. Nature soon agglutinates the wounded part of stomach to the parietes, so that any fluids, instead of passing through the wound into the cavity, escape by the the orifice from the body altogether.

As the abdomen incloses many and very various viscera, so are the injuries complicated in nature, not in their effects or symptoms, the varieties in these being less numerous and prominent than those resulting from injuries either of the head or chest.

Whatever the injury, general peritoneal inflammation; irritability of stomach; pain and tenderness on pressure over the abdomen; a small thready or wiry pulse, often of intermitting character, and generally exceedingly rapid —these, whatever be the viscus wounded, form the usual group of symptoms.

And I have not been able to satisfy myself of the certain lesion of any one viscus, by the nature, order, or intensity of the symptoms of the case If lesion of the stomach or of the intestines, the contents ejected by the wound often furnish an index to the nature of the wound. If the kidneys be injured, generally some indication is afforded by the urine, but not always; and the liver, spleen, pancreas, and even bladder, afford no certain diagnostic signs; such, as I have observed, on the contrary, have either been obscure in their indications, or variable in their character, and not seldom fail altogether in their appearance.

I have met with but one case of recovery from injured stomach, with rupture of its coats, but many are on record; the great proportion, however, are fatal, and more particularly when the wound is gun-shot; the parts do not so readily adhere and agglutinate; a sloughing action is more likely to result, and the contents of the stomach escape into the cavity, giving rise to fatal and uncontrollable inflammation. The gentleman I allude to, however, has perfectly recovered, after long treatment. I observed for a considerable time fluids escape from the stomach, but apparently prevented from finding their way into the cavity of the abdomen. The wound gradually contracted by granulations, and finally closed.

I have not met with a single case of recovery where a gun-shot has passed through a fold of intestine. The inflammation set up by the discharge of the contents has been so extensive and intense, that death has rapidly followed. Occasionally there is an attempt at agglutination of the edges of the wounds in the intestines, but much more frequently none. Here is a specimen of the kind of wound made, and you see not the least effort at agglutination has taken place. In the following case, on the contrary, where there were four openings into the intestines, one was in a great measure agglutinated, and the other three open and gaping. Nature is not always uniform in her proceedings, or rather, let us say, in the fine and complicated machinery of the human system embued with life, injuries, however similar in appearance, may be rendered so different by some of the hidden and multiplied actions of the frame—by the relations and sympathies which bind the parts into a whole—as to require and produce different modes

for their cure in some cases, while in others their modes are so interfered with, as to be rendered entirely nugatory.

Robert Byford, wounded in the abdomen by a musket-ball, and died the same day. Pain of abdomen not constant; sickness and vomiting supervening immediately after the receipt of the injury.

Post-mortem.—The ball was found to have passed through two folds of the large intestines. Three of the wounds presented everted edges and open mouths; the fourth was flat, somewhat agglutinated, and closed. On the surface of the intestines there was an appearance of bile; the gall-bladder was uninjured. The whole peritoneal coat presented marks of active inflammation, having been developed in the few hours between the injury and his death.

Patients do occasionally recover even from very extensive and complicated rupture of the intestines, of which, perhaps, the most singular cases on record are furnished by Larrey: one where a fold of intestine, divided in its whole circumference, was stitched together, and the patient ultimately did well. In others, again, where an artificial anus has been formed, the wounded intestine is retained opposite the wound in the parietes—a state of existence to which I, were it my own case, should think death infinitely preferable. Fortunately a surgeon's duty is so clear and defined, to save life, or even prolong it, under any circumstances, and to any extent possible, that no question can arise in your minds. I must also add, that even in these cases of artificial anus, there is fair ground for hope in past experience, that many may ultimately be entirely restored to a state of health and comfort, by the re-establishment of the continuity of the divided intestine, and final closure of the external wound. In all such injuries, when the wound of the parietes and the wound of the intestine directly correspond, no interference of the surgeon is required to keep the parts *in sitû;* and therefore all stitching and dragging of the wounded intestine by sutures to the external orifice, is mischievous, and, without a prospect of doing good, is well calculated to inflict injury.

Union of both wounds is the result to be desired; and to this all your remedial measures should tend. The treatment of such injuries, when most judicious, is often of nugatory character; it rather consists in preventing the development of inflammatory action—in not allowing or doing any thing that can possibly disturb the quiescence of the parts—interrupt or alter the adhesive process. On these the patient's present safety and ultimate recovery essentially depends. It has often been recommended to use sutures to draw together the open and everted edges of a ruptured intestine: upon the whole, the facts published in support of this practice are not satisfactory. I am led, from the whole of my observations on these wounds, to believe, that if a tendency to adhesive inflammation exist, or can be created—the flattening of the everted edges—their approximation and agglutination—will take place without our interference; and if not, that no artificial approximation of the edges by suture would lead to adhesion. In this, as in all other general rules in surgery, exceptions may occur: if, for instance, a fold of intestine be completely divided, the best practice would be by one or two fine ligatures—the smallest number possible—to approximate the divided tube; or in a large and gaping longitudinal wound, sutures would not only be applicable, but afford probably the only chance of recovery for the patient. Entire abstinence of food for the first twenty-four hours, and only the most bland fluids for several days, are essential points of practice. Purgatives cannot be otherwise but injurious while there is a gaping wound in the intestine. If surrounding adhesions are to close the exit thus artificially made, or the edges of the wound agglutinate, this will take place within the first forty-eight hours—often within twelve. After the first-mentioned period, therefore, the patient may be treated upon the same general principles as those indicated for the treatment of severe injuries of the parietes, implicating directly or otherwise the cavity.

Many cases of ruptured liver, pancreas, spleen, and kidneys, have fallen under my observation; but with reference to the three first, I have not succeeded in tracing in their symptoms any distinctive signs, or rather any invariably so.

Penetrating wound of thorax and abdomen, with lesion of lung and liver.

James Cutting, æt. 24, wounded on the 16th March, 1837, by a musket-ball, which entered at the cartilage of the seventh rib, carrying a piece of an inch and a half in extent through the diaphragm, wounding the inferior lobe of left lung, and finally imbedding itself in the substance of the right lobe of the liver. The ball was, after death, found lying loose upon the intestines, and in contact with the under surface of the liver.

Progress of the case.—Second day expectoration of blood, great thirst, and pain in the chest; tongue dry, and bowels confined.

V.S. ad deliquium; sharp purgative;

and the following mixture, which was one frequently used in the injuries of the thorax and abdomen with good effect:—

℞ Magn. Sulph. ℥ss.; Liq. Ammon. Acet. ℥j.; Liq. Antimon. Tart. ♏ij.; Tinct. Digitalis, ♏j.; Aquæ, ℥ivss. M. cap. ℥iss. 4ta quaque horâ.

3d day.—Relieved; tongue clean; thirst less; no hæmoptysis, but considerable pain in the chest on deep inspiration.

5th day.—*Great discharge of ichorous fluid from the wound* during the night, from which the patient expressed relief; bleeding from the nose; cough continues short and troublesome, without expectoration; the skin is hot; pulse full and bounding, about 90.

V. S. ad ℥xx. Contin. Mist.

He was bled twice on the 6th day to relieve symptoms and subdue the inflammatory action. The bowels also acted freely.

On the 7th day he died, his chief distress having always been referred to the chest and diaphragm.

On examination after death, the liver was found of a bright yellow colour in the immediate neighbourhood of the foreign body, but in its general appearance not otherwise altered. The gall-bladder natural; the mesentery of a deep red colour, from the injection of its vessels; the pleura of the left lung extensively inflamed.

The slight alteration of structure in the liver, after having been traversed, torn and bruised by the passage of the ball, and the lodgment in its substance of another foreign body—the cartilage—is remarkable. But for the ichorous discharge, which would not have been a sign but for the external wound, we see the symptoms in no way denoted injury to the liver; and, indeed, in a somewhat parallel case, where the wound was from above, there was a total absence of all diagnostic sign as regards this organ. If we may judge from the contents of the gall-bladder, and the action of the bowels, its function was not even seriously affected. Many years ago I had a little boy under my care, who had been run over by a waggon. There was great tension of the abdomen, indicating extensive extravasation of blood. He died in about twenty-four hours; and here, as you may observe in this fac-simile wax model I made very carefully immediately after the post-mortem, the liver is ruptured in its whole diameter. The abdomen was filled with blood from the ruptured vessels. No symptom, however, indicated the liver to be the particular viscus injured.

In the following case, where both the pancreas and kidneys were extensively lacerated, there were no distinctive symptoms:—

Joseph Lorins, wounded October 1, 1836, by a musket-ball, which entered between the last true and first false rib, passing for some distance down under the integuments; it entered through the cartilage of one of the false ribs, perforated the rim of the diaphragm near its attachment to the rib, and, continuing its course downwards and backwards, traversed the pancreas and left kidney, finally lodging in the abdomen.

1st day.—Face pale; lips bloodless; tongue cold; pulse small, quick, and hurried; respiration accelerated; pain of umbilical region; vomiting; cold and clammy skin; towards evening in more severe pain, with sinking pulse and cold extremities.

2d.—Has passed a restless night; great pain, not referred to site of wound, but to umbilical region. Respiration short and difficult; anxious countenance; pulse irregular, scarcely perceptible. He died the succeeding day.

Post-mortem.—From three to four pints of coagulated blood found under the mesentery and omentum magnum. Abdomen and chest full of a fluid blood

of the consistence of treacle and water; intestines inflamed; lungs natural.

It is necessary to observe, however, that here the injury was of the most destructive character, not only to the organs wounded, but to life; and as diseases of the kidneys, if not of the pancreas, give rise to distinctive symptoms of disease, it may fairly be inferred that a lesser injury than the one here related, might give signs wanting in the case quoted.

In another case of ruptured spleen there was no special indication to direct the surgeon's attention to the viscus injured; many other parts were implicated; the pain was constantly referred to the lower part of abdomen. The patient, on two occasions, was relieved by copious hæmorrhage from the wound. The spleen was torn into fragments. He died on the 5th day. Blood mixed with fæcal matter effused, had implicated the whole cavity in disease.

It is useless following out these complicated cases further, where there is such violent injury, extensive, and implicating more than one cavity and several organs. I merely wish to show you that it is vain to look for any precise information in the symptoms; neither is it of much importance; no peculiar treatment could be adopted. The same general principles now employed would still be the only ones applicable, whether it was the spleen, pancreas, or liver, that was ruptured or otherwise injured.

We have passed, however, somewhat rapidly from superficial wounds or injuries and their consequences to lesion of the viscera. There is an intervening class of great importance, respecting which there is much to be said, and fortunately much to be done in treatment, with a fair prospect of success.

Even a gun-shot wound penetrating the abdomen, fatal as the majority of such cases prove, may often be brought to a successful termination. A ball may even be lodged, and yet so sacculated and enveloped as to do no further mischief by its presence. Here is a preparation, I believe, to be unique, demonstrating the fact. It shows a musket-ball completely enveloped by the omentum, and which lay so immediately in contact with the abdominal parietes, that it was distinctly felt, and the propriety of cutting it out discussed under the impression that it was lodged externally to the peritoneum.

The case has not otherwise any feature of unusual interest. It was a complicated injury, from which the patient died in a short period.

Knife wounds are not generally either so complicated or so fatal as gun-shot; in civil life they are also of much more frequent occurrence. Unfortunately for England they have been increasing of late, and are not confined to accidents, or inflicted by those whose lives are devoted to murder and theft.

In other countries many such cases have been under my care, and, as they are less fatal, so do they possess more interest than the class we have just considered. It is a heart-sickening labour to watch the progress of a certainly fatal case, where all art is vain.

The worst of these cases I have observed, followed by recovery, occurred in Portugal many years ago. I was suddenly called upon to proceed without delay to a case in which the surgeon had endeavoured in vain by dilatation and other means to reduce the protruding gut. A lady had stabbed herself in a fit of jealousy—an odd feeling it seems, which sometimes produces very different effects; for it leads some to stab their lovers, and others themselves, to inflict some injury appearing in all cases the *sine quâ non*; and in this instance the lady was herself the sufferer. On entering the room I found the patient lying on her back, with a large wet cloth over her person. On removing this I was somewhat startled by seeing the whole of the abdomen covered by the protruded intestines, of a dark red colour, against which the coarse cloth had been some half hour in contact; the patient almost continually vomiting, and at each effort fresh portions of viscera protruding. Our friend, in enlarging the opening, had increased, in a ten fold degree, the mischief; and finding that the woman's convulsive efforts protruded fresh portions upon him, had left her at last, frightened at the quantity exposed to view and his ill success in diminishing it. It appeared that an hour and a half had elapsed since the injury was inflicted. Several feet of intestine were exposed, many parts of a dark and purplish hue. A Portugese surgeon had been called in during the absence of the first, who declared she was a dead woman, and sent for the priest to ad-

minister to her soul. The intestines, with some difficulty and careful manipulation, were returned in a few minutes, and chiefly by taking care that, while the forefinger of one hand restored a small portion, the point of the finger was not removed, until by the right hand another portion was pressed down upon it in a similar manner. When all was returned I passed a strong suture through the muscular parietes, closed the wound, and subsequently a rigorous antiphlogistic treatment was adopted. The woman not only perfectly recovered, but that which is more extraordinary, in five months she was safely delivered, having been four months advanced in pregnancy at the time she wounded herself.

This is one instance among many which may serve to prove to you that a case, however desperate it may seem to you, should never be given up, and I need scarcely remark that nothing could be more reprehensible than the retreating tactics of the first operator. An operation once begun should always be concluded *secundem artem*—according to the circumstances of the case, however untoward may be the supervening results, or the accidents that may seem to render the operation unavailing. The surgeon will best consult the welfare of his patient, to say nothing of his own reputation, by seeing that the patient, even if death seem inevitable, die, at all events as regards the operation, surgically, if I may so express it. Sometimes he will find, in spite of all prognosis, the patient recovers. I have had a patient lie apparently dead under my own scalpel, and under that appalling circumstance I concluded the operation, and my doing so was the means of saving his life, when all around me had conceived it impossible, and he perfectly recovered.

I cannot agree with some modern authors in their censure of sutures, and their recommendation in the generality of cases to dispense with them; even if the wound of the integuments and peritoneum be only an inch in extent, yet in nine cases out of ten a less suture will be required. It must be remembered that the patient is generally extremely restless; in the first instance most frequently convulsed with vomiting, the abdominal muscles in violent action or writhing with pain; and under these circumstances how are folds of intestine just returned to be prevented from protruding, if not by a suture? No bandage or pressure can be endured, not even for a few minutes; how then is hernia to be prevented? By strips of sticking plaster? Assuredly not. After again and again performing the same operation to the manifest injury of the patient—of handling and returning the gut, the surgeon will at last be obliged to resort to the only secure means, which he ought to have adopted at first, and passing a strong ligature through the integuments and part of the muscular parietes, close the wound and effectually confine the elastic contents of the abdomen.

A knife thrust into the abdomen may either wound some viscera or induce disease in any organ in the neighbourhood of the wound, particularly if such organ be predisposed: the following is a case of this kind:—

Wm. Keating, aged 25, stout and muscular; subject to pain in the region of the liver; weakness and pain in the small of the back. He, in a drunken brawl, was stabbed with a knife, which penetrated between the cartilages of the tenth and eleventh ribs on the right side, and was supposed to have passed outwards and downwards into the abdomen. When I saw him on the third day he complained of severe pain extending six or seven inches round and affecting both the chest and abdomen. Pulse 102, regular, full, and bounding; skin dry; bowels much constipated; he had been bled to sixteen ounces on the succeeding day, which relieved him; before the bleeding his respiration had been extremely difficult; a pint of blood was again abstracted, and a mixture with the vin. antimonialis and tinct. digitalis was ordered, as also pulv. jalapæ ℈j; pulv. ipecac. gr. iij.

In the succeeding days signs both of inflammation of the pleura and of the liver set in, accompanied by a yellow coated tongue and a yellowishness of the whole skin; these symptoms were subdued by active treatment. On the ninth day I found him better, with hardly any cough, and the febrile excitement gone. Pain in the region of the liver only on pressure; tongue dry and furred. He was ordered doses of calomel, opium, and ipecacuanha, which, although in very small doses, in a few days affected his mouth, and seemed to act very beneficially. He remained subject from slight causes to return of

pain in the liver, and at the end of the second month, three weeks after the wound had entirely healed, he still complained of a nearly constant pain, much aggravated by any exertion, with obstinate costiveness. The wound was six inches above the umbilicus, in a direct line drawn in the centre between the umbilicus and anterior superior spinous process of the ilium. Permanent disease of a more active form than any previously existing in the liver seemed to be a permanent consequence of this wound, and yet there were scarcely any grounds for believing that organ to have been injured in the first instance.

Wounds of the Pelvis and Genital Organs.

Lesion of bladder by a musket-shot generally leads to a paralysis of its muscular fibre and retention of urine. I have before me the notes of a very interesting case, in which, notwithstanding the ball had made two apertures in the bladder, it retained four pints of urine. There was vast mischief in the serous membranes from the extravasation of fæcal matter, the intestines being also wounded, but scarcely any in the mucous tissue. These injuries are not necessarily or always fatal; the first and chief indication is to relieve the bladder of its contents, and by a catheter to keep it so. Some patients cannot bear the continued presence of a catheter, in which case it must be used very frequently. If, however, its presence can be borne without much irritation, it is better to leave one in the point, merely passing about half an inch beyond the neck, and so secured. In the case alluded to, one of the apertures was in the posterior and *inferior* aspect of the bladder, showing how effectually nature had instantly closed the wound. The mucous membrane of the bladder also was *pale and healthy*, further proving the absence of a proneness to take on inflammatory action.

I remember a French soldier who had a wound that seemed to leave little hope of his recovery. A musket-ball had passed through the os innominatum, traversed the cavity of the pelvis, and was cut out under the integuments of the abdomen. He had scarcely any bad symptoms, and recovered partly.

Here are two beautiful specimens of the most extensive fracture by musket shot and subsequent caries of the whole of the innominatum, yet with all this little or no mischief supervened in the pelvis; disease rather extended externally among the muscles and into the joint.

Fig. 1 is difficult of description, not only from the extensive injury to the bone over a variety of surfaces, and from a portion of these appearances being the direct result of the contact of the ball in its passage and others from subsequent disease. The three bones of the os innominatum and the head of the femur are all implicated: the ilium most, the ischium second, the pubis least—only in that portion which enters into the formation of the acetabulum. Judging from the appearance of the bone, the ball would seem to have struck the dorsum of the ilium, crushed between its plates, passing obliquely out near the sacro-ischiatic notch, injuring the superior portion of the acetabulum. There is an irregular opening at the dorsum of the ilium and obliquely through it. The opening through the inner plate seems rather to be a consequence of absorption than the passage of a ball. Into the acetabulum there are two openings—one long irregular slit proceeding from the ilium to the superior internal edge of the acetabulum; and this I think was probably caused at first by the direct action of the ball fissuring the bone in that direction, another larger opening running parallel but swelling at the bottom and proceeding to the centre of the acetabulum, and this seems to have been wrought by absorption. The dorsum and venter of ilium both present appearances of absorption, and some feeble efforts at throwing out of callus around the broken edges. The whole of the lower portion of the ilium, from the anterior to the posterior inferior spinous process, is broken down, and more or less absorbed and diseased. The whole of these portions of the ischium and pubis which enter into the acetabulum, are in precisely the same state. The head of the femur is rough, irregular, and denuded of its smooth bony covering, save in one spot, where the smooth covering both of the head and corresponding portion of the acetabulum still adhere, although partially detached. There is in the venter of the ilium an appearance resembling earthy concretion scaling off. The process forming the ischiatic notch is also

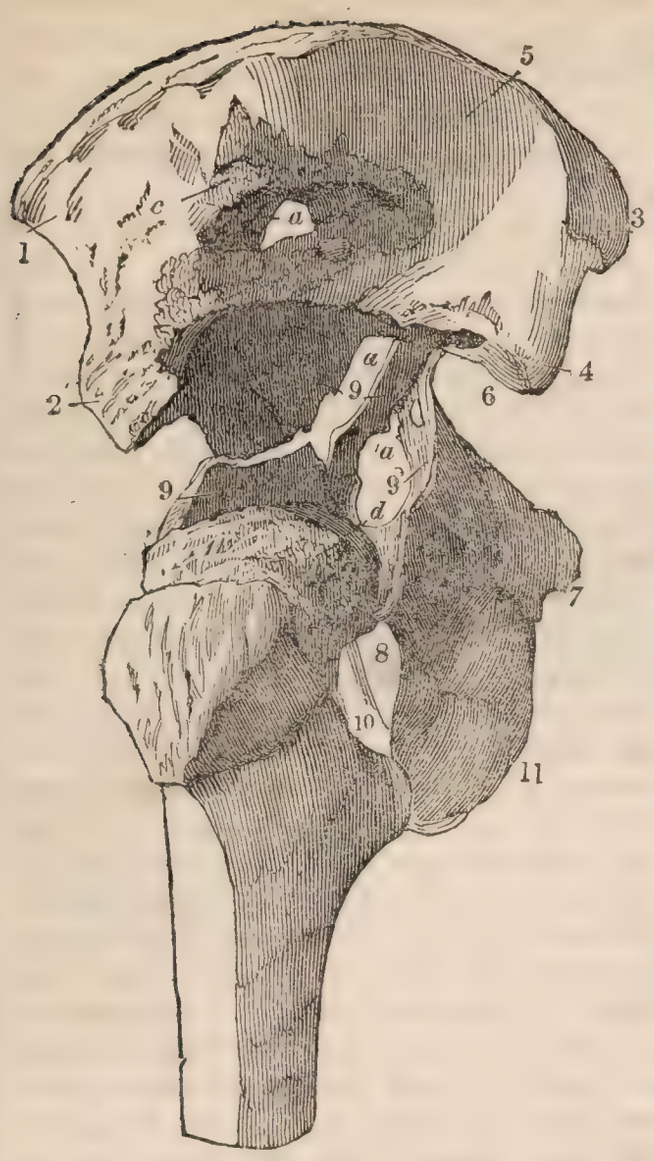


FIG. 1.

1. Anterior superior spinous process.
2. Anterior inferior spinous process.
3. Posterior superior spinous process.
4. Posterior inferior spinous process.
5. Dorsum of ilium.
6. Sacro-iliac foramen.
7. Ischiatic notch.
8. Obturator foramen.
9. Acetabulum, eaten through and destroyed in many parts; others diaphonous; the whole carious.
10. Ascending ramus of ischium.
11. Head of femur in a state of caries, having undergone considerable absorption.
12. Tuber ischii.

a, a, a. Openings through the bone, caused by the ball and disease resulting, extensive absorption having apparently set in.

c. Slight appearances of callus thrown out.

d. Small portion of the smooth bony covering of the head of the femur still remaining, although partially detached. There is a corresponding surface in the acetabulum.

diseased, and partially absorbed. The rest of the bones which enter into this preparation are natural. It is worthy of remark, that the disease affecting the head of the femur seems to describe the line formed by the attachment of the capsular ligament, as if it had been confined within its limits.

A very short outline of the progress of the case will put you in possession of the chief features resulting from such a severe and extensive injury in the bony walls of the pelvis. The ball entered at the outside of the thigh, within three inches of the anterior superior spinous process, and, passing upwards, lodged, producing a fracture extending into the hip-joint. The symptoms scarcely began to develop until the 18th day; there was then great restlessness; pain in the groin; and on the 20th much irritation from the hip-joint. On the 27th day there was difficulty in voiding the urine; and, gradually on to the 40th day, granulations springing from the wounds assumed unhealthy characters, with great constitutional irritation. At this time great debility, anxiety, and dejection, were perceptible, accompanied by diarrhœa; pulse 90; patient restless and slightly delirious; stomach irritable; and so he gradually sunk; a capacious appetite, and intervals when more collected intervened until the 56th day. There was then a slough over the sacrum; he seemed more idiotic; there was headache; foul tongue; irritable sore; great prostration; and to the last a state of aberration rather than marked delirium. He died on the 72d day.

Post-mortem.—The soft parts formed the walls of a great abscess extending into the glutæus maximus, studded in an extraordinary manner with innumerable little rough bits of bone, some adherent and others loose. The probe passed across the back in a sinus, grating against pieces of bone. Another large abscess was found in the opposite side nearly in the same situation. The trochanter major rough from absorption. *Internally the cavity of the pelvis and abdomen natural.*

This last circumstance is well worthy of remark, the more so that in this second case, fig. 2, where, as you perceive, the injury to the bone is much less—confined, indeed, to an irregularly circular space of about two inches immediately below, and adjoining the junction of the sacrum with the ilium—a contrary event resulted: by comparing the post-mortem examinations of the two we shall find that, although the patient lived until the

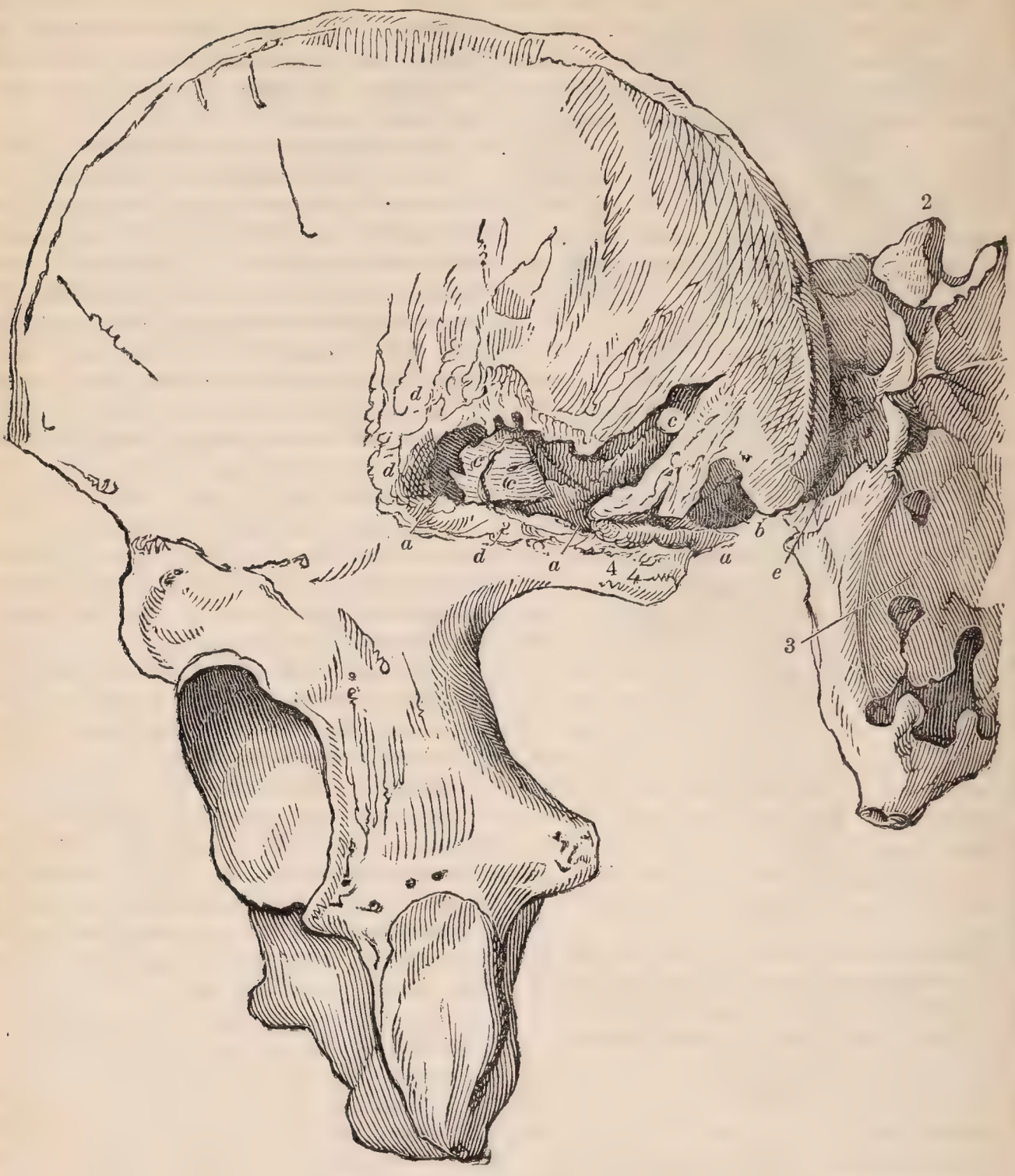


Fig. 2.

1. The dorsum of the ilium.
2. Last lumbar vertebra.
. The sacrum.
4. Posterior inferior spinous process.

a, a, a. The spongy textured fragment incased in, but detached from, the surrounding bone, with the ball at its extremity, and the plates of bone, *c, c, c,* lying dead on its surface, partially detached by absorption.

d, d, d. Callus thrown out around the edges.

Posterior view.—e. A portion of the sacrum where partial absorption has taken place.

151st day, he was at last carried off, not by the mere exhaustion of a fruitless process and vain endeavours at restoration, but by a general and severe inflammation of the whole of the abdominal and pelvic cavity. It is unnecessary to enter into the progress of the case further than to observe, that the serous cavity did not seem implicated in the first instance, nor indeed until a late period.

On examination after death the soft parts were found much disorganized in the neighbourhood of the wound, and occupied by collections of purulent matter. The abdomen contained a quantity of seropurulent fluid; the peritoneum of the cavity and intestines inflamed; and both these were effects equally observable in the pelvis.

These two cases may serve to show you that even from the most complicated injuries of bone and external coverings of the pelvis, the greatest danger is not to be anticipated from the extension of diseased action to the cavity of the pelvis; certainly not in the first stages, but from the irritative fever which results from the laborious and ineffective nature of the reparative process set up.

To remove all loose portions of bone, prevent sinuses and accumulations of matter, bed sores, and sloughing of depending portions, with a careful support of the patient's powers, is nearly all a surgeon can do to avert a fatal termination.

Wounds, however, in which the soft parts beneath the perineum are lacerated, almost invariably lead to a fatal degree of inflammation, not even confined to that serous membrane, but extending to others. As the first case, fig. 1, demonstrates how little mere contiguity of structure has to do with the extension of disease, so will the case I am about relate to you prove another fact not less general in its application; viz. that similarity of structure very frequently induces an extension of disease, even to distant parts, and from one cavity to another.

Case of flesh wound through the perineum, inducing fatal inflammation of pelvic, abdominal, and thoracic cavities, with effusion in the latter.

Alexander Wilson, wounded by a musket-ball, June 6th, 1836, which entered about the centre of the glutei muscles of the left side, traversed in the course of the perineum, slanting off from the ischium, passing by the neck of the bladder (not injuring the peritoneum), and, turning over the pubes lodged on the outer part of the upper third of the right thigh. The parts connected with the course of the ball are thus described, from examination after death: they were found in a gangreous state, and a very large quantity of dark coagulated blood was found near the symphysis pubis. No peculiar symptoms marked the progress of the case; they were chiefly those of irritative fever, with the supervention of peritoneal inflammation. Accordingly, not only the serous coat of the intestines, in nearly their whole extent, bore marks of inflammation, but also the omentum.

On opening the cavity of the chest a large collection of bloody serum was found in both sides, with adhesions between the pleura pulmonalis and costalis; the left lung gorged with dark grumous blood.

In the genital organs some very awkward wounds occasionally are met with; and really it not seldom happens that the simplicity of their course is the most remarkable feature. I am afraid these said organs have been somewhat traduced by the labours of the learned to do them all justice. How many thousand works are there on the diseases and injuries of the genital organs! To read but a list of them would scarcely allow any one to think that these very parts will submit in the most kindly way to the most complicated injuries — *sans rancune*, as the French have it—and without reminding their owners that at one time they really had been very grievously maltreated.

I must confine myself to a very few observations on these injuries; nor will time at this period of the course allow me to proceed further at present in this series of lectures.

A short outline of two cases will show you how wonderfully these parts recover themselves; I say themselves, for it is hardly fair, where so little of treatment is often required, to give the surgeons more credit than that of being quiet.

Case of a wounded testicle, cured in eighty days.

Pat. Farley, struck on the scrotum by a musket-ball, which passed through, laying open the tunica vaginalis, and injuring the testicle. Leeches were freely applied, followed by warm and emollient poultices, and by the 11th day the swelling had much abated, and laudable pus began to be discharged. Part of the testicle at this time protruded through the upper wound.

14th day.—Doing remarkably well; swelling of scrotum nearly subsided; wounds granulating healthily.

15th.—A small collection of matter had taken place in the tunica vaginalis of the injured side, and was evacuated by the bistoury.

Towards the end of the second month wounds nearly healed; general health was good; complained of some pain and uneasiness in the wounded testicle when walking. Ordered to wear constantly a suspensatory bandage.

56th day.—Wounds healed; slight pain continuing in wounded testicle, which in a short period disappeared.

In another case which fell under my observation, at Oporto, in 1832, a ball entered at the upper and outer side of the thigh, and having passed through the limb wounded both testicles. Both local and general inflammation supervened with severity, and lasted for many days; so much so, that great portions of the scrotum sloughed away, leaving the testicles bare and exposed. They were speedily covered in, however, with granulations, little pain attending the process, and in less than two months the patient was discharged quite well.

A more complicated injury resulted from the same action with an equally favourable result. The ball here, too, entered at the outside of the thigh, and, passing through the limb, wounded not only the scrotum, but traversed the penis. The urethra was laid open at the junction of the penis and scrotum, through which the urine freely passed. Although the penis remained twisted and swelled for a considerable time, the parts took on no bad action: one or two abscesses formed about the scrotum, and one month after the date of injury, on carefully examining the urethra, I found some contraction a short distance below the wound; yet before the end of the 3d month he was perfectly recovered, the wounds healed, and his water passed freely by the natural channel.

This case proved the value of a vigorously enforced antiphlogistic treatment; and secondly, that the disposition to contraction is by no means ungovernable. Indeed, I had occasion more than once to enforce the propriety of regularly passing the bougie, from having observed some carelessness on this point; neither was it passed as early as I had desired.

These, gentlemen, are the views I have formed from the observation of a very large number of complicated injuries; many forms I have described, it is true, you will but rarely—perhaps never—be called upon to treat. In civil life, however, injuries not less fearful and complicated occur from machinery, and even from falls, to which precisely the same principles detailed in reference to those injuries produced by gun-shot, are applicable; whereas there are some features and peculiarities of this latter class which are not to be learnt by reference merely to the former. From these considerations I was led to devote a certain number of lectures to the nature and treatment of all the more complicated injuries, in which ought necessarily to be included those occasioned by gun-shot. The subject is large as it is important, and upon some other occasion I must render the series complete by some observations (which time will not permit me to lay before you now) on complicated injuries of the extremities in reference to the question of amputation, and the different modes and periods for its performance.

POST-MORTEM EXAMINATION IN A CASE OF OVARIAN TUMOR.

With Observations.

By Henry Davies, M.D.
Physician to the British Lying-in Hospital, &c.

[*For the London Medical Gazette.*]

Mrs. Parberry, aged 43, and the mother of five children, first came under my care in July, 1828. The details of the case until July 30th, 1833, were published in the first volume of the Medical Quarterly Review; and it will be sufficient to observe that she was suffering from a tumor in the lower part of the abdomen, which was not much benefited by medical treatment; but in January 1830 the integuments gave way at the umbilicus, and a thick red discharge issued from the orifice, which gave her great relief. The last report, dated July 30th, 1833, says, "Mrs. Parberry has generally enjoyed tolerable health since the last report. She occasionally suffers from violent pain and tension of the abdomen, but this is eventually relieved by a discharge from the umbilical orifice, which admits a probe easily. She was this day found actively engaged in her avocations as a laundress."

I heard nothing of Mrs. Parberry till I attended her for an attack of enteritis in 1837. I was informed that the tumid abdomen was very troublesome, and that the orifice had closed, from which previously the discharge had occasionally issued, and which afforded her so much relief. In November 1838 she had pneumonia—after her recovery she complained much of her suffering from distension of the abdomen, and it became a question how far occasional relief might be afforded,

by imitating the operation which nature had formerly performed, and making a perforation with a grooved needle at the umbilicus, thus letting out a portion of the contents of the cyst. Upon making an examination with this view, something like a large hernia was found at the umbilicus. The whole tumor had become more consistent and solid, and there was no fluctuation.

Mrs. Parberry continued in average health till 27th April, 1839, when she was suddenly seized with an attack of apoplexy, accompanied by paralysis of the right side. She died on Monday, the 29th, and a post-mortem examination was made on Wednesday, with Mr. Woolridge, of Jermyn Street, her usual medical attendant, and Mr. Lane of Grosvenor Place, who has favoured me with the annexed report.

Post-mortem examination of the body of Mrs. Parberry.

On opening the abdominal cavity an immense fleshy tumor presented itself, invested by the peritoneum, and weighing 17 lbs. The abdominal parietes had given way opposite to the umbilicus, and a portion of the tumor formed a sort of irreducible hernia in this situation. On examining carefully the protruded parts it was found to be composed of a portion of the fleshy tumor, surrounded by an extensive cyst now empty, and closely applied, but not adherent to it. This cyst was not confined to the protruded part of the tumor, but covered a considerable portion of that contained within the abdominal wall. Opposite the umbilicus, the cyst and the hernial sac, and skin, were all adherent, and together not more than a line in thickness.

The left ovarium was in close contact with the tumor; the right could not be distinguished. The vagina as well as the uterine cavity were much enlarged and elongated, but the lining membrane apparently free from disease. The wall of the uterus was implicated in the tumor, and on making sections into it the peculiar texture of the uterus was occasionally apparent. The colour of the tumor was of a yellowish or pinkish white—its consistence between that of scirrhus and fungoid disease, its texture fibrous*.

The other viscera of the abdominal cavity (which alone was examined) were healthy.

My impression was that the tumor offered a good specimen of the advanced stage of fleshy tubercles, which had developed themselves between the fibres of the uterus, and that the cyst, which had occasionally emptied itself at the umbilicus during life, was probably connected with the right ovarium.

S. Lane.

Aug. 28, 1839.

The gradual alteration in the consistence of this tumor may be remarked as disabling her from having the relief which she formerly had received, by a discharge of a portion of its contents, when it became painful from distension.

This is the third patient with an ovarian tumor whom I have seen die of congestion of the brain. One is that of S. Larman, reported in the Medical Quarterly Review, immediately after Parberry. Mrs. Larman had been cured for four years.

The third was that of a lady, aged about 30, who had been operated on by the late Mr. Vance, and was in average health for two or three years subsequently. She died of congestion in the brain. After death the remains of the cyst were found the size of an orange flattened, with calcareous granulations issuing from its internal surface.

How far the pressure made by these large tumors on the great blood-vessels or descending aorta, by obstructing the free circulation towards the lower extremities, may have caused some degree of fulness or dilatation of the vessels of the superior extremities and brain, so as to predispose them to a congestive state, on any adequate exciting cause being applied, is, of course, a matter of speculation. To me it seems sufficiently probable.

18, Savile Row,
Sept. 14, 1839.

* One of the membranous divisions with which the tumor was intersected was continuous to the point of the umbilicus, forming a pouch, from the extremity of which the fluid had formerly been discharged.—H. D.

MR. ESTLIN ON THE NEW VACCINE VIRUS.

[*For the London Medical Gazette.*]

The following is an abstract of a paper which was read at the Medical Section of the British Association, during its late meeting in Birmingham.

On the New Vaccine Virus of 1838. By J. B. Estlin, F.R.S.

The author stated, that as the history

of this new supply had been given to the public in various communications in the Medical Gazette, he should not enter into details respecting it, but merely describe the changes that had taken place in the effects produced by the lymph, during the twelve months that he had watched its course.

He was induced to bring the subject forward, as in consequence of the dissatisfaction felt with the lymph furnished by the National Vaccine Establishment, he had been applied to for supplies of the new virus by practitioners in every part of England; and its employment in the charitable institutions of Liverpool, Manchester, Birmingham, and Bristol, was a sufficient proof of the extent to which it was used, and gave an importance to its past and present history.

The result of the author's observations was, that at first (during the three or four months following its inoculation from the cow) severe local and constitutional symptoms very frequently arose: so serious, indeed, did they appear to some medical practitioners, that they discontinued the use of the new lymph, and others were reproached by a few of the less intelligent class of their patients with having used spurious virus for inoculation.

The particular appearance of the vesicle at different periods was described, and it seems that a gradual change took place in the intensity of the lymph, though one that was hardly observable from week to week: at the present time the lymph being forty-eight removes from the cow, the author stated that it had lost much of the activity it possessed when removed only fifteen degrees from its original source, while at the same time it retained all those appearances which Jenner describes as characteristic of a perfect specimen of the disease.

The author observed that he was not aware that the course of one particular stock of vaccine virus, kept quite dtstinct from every other, had been often carefully watched in its progress from the cow during a considerable number of successive vaccinations, and he therefore thought the subject might not be uninteresting to the section. He adverted to the statement made by the National Vaccine Establishment, in their last report, that the lymph supplied by them was of the stock originally introduced by Dr. Jenner, while in the same document it was declared that they had occasionally "recruited their stores" from the original source, and in a recent letter in the Lancet from Mr. Leese, a vaccinator at one of their stations, it is affirmed that the source of his supply was from cows which had the disease in 1836, from which he had furnished the parent institution with 27,183 changes!

The fact was noticed of the liability of the vaccine vesicle to become deteriorated in particular constitutions. A perfect vesicle, it was stated, will in some children produce a pock deficient in the characteristics of the genuine vaccine vesicle; matter taken from such a pock will reproduce other defective ones, and thus lymph of the best quality in two or three transmissions may become totally degenerated, and unfit for use. With this obvious fact in view, it was needless to theorize about the effects which frequent transmissions of virus have in "humanizing it:" the practical suggestion is of more consequence, the careful selection of the best vesicles only for future inoculations, and a return to the original source when satisfactory lymph cannot be procured.

At the conclusion of his memoir, the author adverted with high encomium to a series of experiments made by Mr. Ceely, of Aylesbury, and brought forward at the late meeting of the Provincial Medical Association at Liverpool, in which cows inoculated with small-pox had vesicles produced where the matter was inserted, with all the characters of the natural vaccine pock; lymph taken from these pocks, produced in children, through twenty-five successive inoculations, a most satisfactory and regular vaccine vesicle. The pathologist, it was stated, would feel great interest in this confirmation of Jenner's hypothesis of the identity of small-pox and cow-pox; and society at large could not too highly appreciate a discovery which furnishes an easy method of producing the vaccine disease at any time, so particularly important in countries where the ordinary supply of cow-pox could not be obtained when most required, on the breaking out of small-pox. The author congratulated the profession at large, that under the want, so long felt in this country, of a National Institution with power and energy either to add to the stock of knowledge on the subject of vaccination itself, or to encourage the pursuit of it in others, a vaccination

section had been established in the Provincial Medical Association, which in so short a time had promulgated results of such importance.

The President (Dr. Yelloly) remarked that having received from Dr. Bright some of Mr. Estlin's lymph during the earlier period of its use, he employed it in his own family, and could testify to its activity.

Dr. Inglis stated he had lately received from a physician in Berlin an account of the progress of vaccine virus, confirming Mr. Estlin's observations upon its diminished intensity when removed to a little distance from its original source.

DR. WILLIAMS'S REPLY TO DR. HOPE.

To the Editor of the Medical Gazette.

SIR,

THE letter of Dr. Hope contained in your last number scarcely requires a reply, as it entirely evades the subject of my former communication; saying, as his sole defence, that I first acceded to, then refused, a *second* arbitration. I think it only necessary to explain that this second arbitration was proposed to me by the Rev. Mr. Niven, during the late contest for St. George's, with a view to *reconciliation* between Dr. Hope and myself. I acceded to this proposal, not being then aware of his attack on me published a little before; but as soon as I had seen this, I felt that it would be hypocrisy on my part to promote any arbitration with reconciliation as its object. To arbitration for justice sake I was and am still most ready to appeal; and it was because I felt sure that the good sense of your readers would do me justice on comparing Dr. Hope's statement with Sir B. Brodie's letter, that I asked and obtained permission to publish that letter. To it I again confidently appeal, in support of my title to the experiments in question; and if any one wishes to examine further the grounds of this title, I will show him conclusive "documentary evidence," not from my own *notes* only, but from the letters and statements of *others*, and from *published* works.

The "final agreement by Dr. Macleod," referred to by Dr. Hope, amounnted to this: after the arbitration, Dr. Macleod made proposals from Dr. Hope that both he and I should publish the experiments, as if they had been conjoint; I at once refused to concede any part of my title to the experiments, now confirmed by Sir B. Brodie's arbitration; but I consented to allow Dr. Hope to publish them, and accordingly lent him the original notes.—I am, sir,

Your obedient servant,

CHAS. J. B. WILLIAMS.

Half Moon Street,
Sept. 18, 1839.

MEDICAL GAZETTE.

Saturday, September 21, 1839.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL PROCEEDINGS OF THE BRITISH ASSOCIATION.

EACH succeeding year seems to render the benefit afforded to medicine, by the existence of this society, more problematical and indistinct. There is either some defect in the constitution of the British Association, or some fault in British climate or customs, which is decidedly unfavourable to the success of migratory science. Perhaps it is, that the communication of men of science is too easy to render their meeting at any fixed time or place an event anxiously to be looked for; all of them are almost sure to meet either in the great focus of the metropolis, or in their annual tours of relaxation, and the benefit of a general assembly is thus materially lessened, if not entirely superseded. The Association also have erred, we think, in holding their meetings so frequently; if a bull is permissible, twelve months is too short a time to elapse between the anniversaries, for in all these cases the general effect of an event, and the anxiety with which it is anticipated, are in direct proportion to its rarity; and after it is passed, as time only serves to magnify its plea-

sures, and to obliterate the remembrance of its defects, the more time that elapses before the next succeeds, the better appetite have its patrons for a repetition.

But, whatever be the causes, the British Association this year is *medically* a complete failure. The assembly of members of our profession was scanty and unimportant—the papers that were read for the most part hackneyed and uninteresting—the valuable results arrived at, null—the suggestions and encouragement for future inquiries few and insignificant. We were so little struck with admiration at last year's proceedings, that we felt no inclination for a special report of those of this meeting. The short account that we think it may be interesting to give we extract from the Athenæum, the only journal, we believe, which has given a detailed account of all the proceedings, and certainly the only one that can be relied on for the accuracy of its reports.

The first paper read was by Sir David Dickson, containing abstracts of some remarkable cases, of which the only one that possesses the merit of great rarity is a rupture of the duodenum in four places, the result of external violence, an ill effect to which the intestine was predisposed by morbid softening and thickening. The next was by Mr. Middlemore, for the purpose of introducing to the section the instrument (of which he favoured us with an account, which was published in our number for the 7th April), for the removal of the opaque capsular cataract through the sclerotica. He has not yet had occasion to employ it in the human subject. These were the only two papers read on the first day of the meeting of the medical section.

On the next day (Tuesday) Mr. Goodsir read, in the Zoological section, a paper on the Follicular Stage of Dentition in the Ruminants, in which he further developed the opinion which he published in the Edinburgh Medical and Surgical Journal for July. Mr. Middlemore, in the medical section, detailed a case of successful formation of artificial pupil; and Dr. Foville read a paper on the arrangement of the fibres of the brain. Dr. Macartney undertook a subject which in Birmingham may be regarded as somewhat daring — "the means of repressing hæmorrhage from the arteries,"—in which he advocated his now well-known views of the non-inflammatory process of healing (in which we confess there still appears to us to be a distinction without a difference between his ideas and those of most people); and then recommended the use of *metallic ligatures*, which he was led to adopt by observing that such substances frequently remained in the body without exciting any uneasiness. He had experimented with ligatures of leaden wire on the arteries of dogs, and the jugular veins of rabbits, and with success, but had not yet employed them in the human subject. Dr. Gibson, of Philadelphia, said, that Dr. Physic had once introduced similar ligatures; and Mr. Hodgson rendered the communication more valuable by giving, as the result of his own experience, that, of all ligatures, he deemed "hemp, as in common twine, the best." The inconvenience of using metallic ligatures, indeed must be evident; and as for the little irritation they occasion when left in the body, we much doubt whether they produce less than fine silk would. In Mr. Lawrence's experiments, the most annoyance that followed cutting both ends of the ligatures (of strong silk) close to the artery, was the formation of little abscesses, through which, after having seprated from the vessel, they were discharged, and in many cases even that did not occnr, but they remained quietly in the little sacs that formed around them.

Dr. Blakiston read a paper on the sounds produced in respiration and on

the voice, in which he contended that the sound of vesicular respiration is not produced in or around the vesicles, nor by the rubbing of the pleura, but (if we understand it rightly) at the larynx, from which it s propagated along the trachea and bronchi, becoming constantly softer and weaker by the divergence which it undergoes at each subdivision of these tubes, and by the solid obstacles which their walls, and the heterogeneous tissues around them, place in the way of its transmission. The abstract given of this paper is unfortunately short.

On the Wednesday, Mr. Evans 'presented a case of spina bifida in a strong, active, and apparently healthy boy, 12 years of age. The tumor was in the lumbar region, and as large as a child's head. Dr. Golding Bird read some "Observations on Poisoning by the Vapours of Burning Charcoal," with which our readers are doubtless already well acquainted, from our reports of the Proceedings of the Westminster Medical and the Guy's Hospital Societies. Dr. Macartney read a paper "on the Rules for finding with exactness the Position of the Principal Arteries and Nerves, from their relations to the external forms of the body," in which he endeavoured to prove the existence of certain laws of proportion, according to which the vessels and nerves oocupy lines dividing the external form into halves (as in the sciatic nerve), or into thirds (as the brachial, the radial, and ulnar, &c.) This paper may afford a useful aid for the memory in retaining these fugitive points of relative anatomy, and certainly demonstrates a singular series of partial coincidences, but it is illustrative of no fixed principle of construction.

Dr. Inglis communicated observations on the Cause of the Increase of Smallpox; and Mr. Estlin, on the New Vaccine Virus. The former we need not notice, as Dr. Baron promises to include the whole subject in a report which he is about to publish on Variola, and which will of course merit a particular consideration. An abstract of the latter will be found in our present number.

On the last day a paper was read on Alkaline Indigestion, by Dr. R. D. Thompson; and another, by Mr. Hodgson, on Redness of the Internal Coat of Arteries, in which he proved that of which there can now be no reasonable doubt, that in a large majority of cases it is in no degree connected with inflammation, Mr. Coathupe detailed the results of his experiments on the production of carbon by animal respiration, possessing some interest, and Dr. Costello reported ten cases of lithotrity, in some of which he "exemplified the progress of surgery and steam travelling;" he operated on three patients residing in three counties, and travelled upwards of 200 miles in 18 hours; "*sat cito*" at least.

Mr. Nasmyth communicated some of his observations on the microscopic structure of the teeth, in which the chief novelty was the statement that the inter-fibrous substance is not, as usually supposed, structureless, but distinctly cellular. He also read a paper on the structure of the epithelium; but (except a very accurate description of the epithelium of the mouth, and especially of that covering the alveolar arches, which is so remarkable for its thickness that it has been classed as cartilage) this paper contains little more than the abstract which we published a few weeks since from Dr. Henle's writings. Dr. Güterbock exhibited some of his gelatine bougies, made by abstracting the earthy matter from ivory, with which also our readers are probably familiar.

These are positively all the medical communications of this year's meeting; they are in number 18, and in novelty

yet less remarkable, for nearly half of them had already appeared in public. In importance, too, they must confess themselves but poor, considering the occasion. The council seem to have entertained no higher opinion of their value, or of their future prospects, for only £125 was voted for the furtherance of medical investigations.

In short, the Medical Section of the Association must, unless some powerful exertion is made for it, soon cease to exist. The next meeting, to be held at Glasgow, offers a good opportunity for emulation between the nations of Britain—an emulation which is at all times deficient, and too often has its place occupied by animosity. It is for this, we believe, that in some measure scientific *reunions* succeed less in Britain than in Germany. Here every *confrère* is a competitor in the trade of his profession, and would be profited by the intellectual extinction of his rival, and a generous emulation can never, under such circumstances, exist. There, on the other hand, though the professors of different universities are rivals, they are not pecuniary opponents: they war for reputation only, not for fame with the appendage of money; and their wars are comparatively friendly, for the only weapons that they call for are those of the intellect, sharpened, not for satire and spleen, but for cautious and accurate disputation. The meetings, therefore, of this kind that are held in Germany seldom pass by without important results for the service of medicine; while, in those of England, we should have some difficulty in finding any thing in which real benefit has resulted.

We published last week a letter announcing a scientific meeting at Pyrmont. We may add, from a notice which is advertized in Müller's Archiv, that a similar meeting, on the plan of those of Germany, will be held at Pisa, from the 1st to the 15th of October, in this year, under the presidency of Prince Charles Buonaparte.

DEATH OF DR. SWEATMAN.

Our readers will learn with regret the death of this estimable practitioner, which took place at his house in Berners' Street, on Wednesday the 18th. Dr. Sweatman was deservedly respected for his abilities, and beloved for his moral worth. His early decease, for he was only thirty-nine years of age, has left a blank in the circle of his friends which will not easily be filled up.

MEDICAL RELIEF UNDER THE NEW POOR LAW.

The Council of the Provincial Medical and Surgical Association beg leave to call the attention of the Members, and of the profession in general, to the following letter received by the Secretary of the Poor Law Committee from Mr. Serjeant Talfourd.

It will be seen that the propositions for legislative enactment have undergone considerable modification since the Report of the Poor Law Committee in 1837.

The results of last year's Parliamentary inquiry, the proceedings of the Poor Law Commissioners since that inquiry, the transactions of the British Medical Association, and, chiefly, Mr. Talfourd's valuable advice and important suggestions in the frequent communications with which he has favoured the Poor Law Committee, have each and all proved of essential service in maturing the plan contained in this letter.

It is obvious that the success of the learned Serjeant in prosecuting this measure during the next session must depend greatly on the extent to which he is supported by the profession; and therefore it is earnestly hoped that the Members of the Provincial Association will, before Parliament meets again, call the attention of their representatives to the subject, and, if possible, obtain their support to the proposed clauses; and that the profession generally will agree in their respective localities to

petition Parliament in favour of the measure, on the opening of the next Session.

CHARLES HASTINGS, M.D.,
J. P. SHEPPARD, Surgeon.
Secretaries to the Association.

Mr. Sergeant Talfourd's Letter.

My dear Sir,

As circumstances have rendered necessary the postponement of our endeavour to engraft on the system of Poor Law administration, enactments for the protection of the Medical Profession, and of the sufferers committed to their charge, I am anxious to state to you, and through you to the Provincial Medical Association, the objects for which it is proposed to contend, and the course by which we hope to achieve them. If the Bill for continuing the powers of the Commissioners had been introduced at a convenient period of the session, I should have felt it to be my duty, in fulfilment of the trust with which I was honoured by your Committee, to present the amendments then contemplated to the notice of the House of Commons, and to seek their addition to the measure which the Government promoted. But the large consumption of time occasioned by the fierce conflicts and singular vicissitudes of party, deferred the introduction of the Bill to a period when my professional engagements rendered it impossible for me to await the season when the amendments could be regularly presented; and when, if presented, I think they could not have secured, even in far more influential hands than mine, that calm attention which they require and deserve. I would fain hope that no personal disability on my own part has really produced a delay, which might otherwise have been averted, and that if the delay has caused regret to others as it has to me, it will bring with it the compensation not only of a more matured scheme, but of a more lasting destiny than could have awaited our hopes, if they had been embarked with a temporary measure like that which has been at length submitted to Parliament by Ministers. At all events, it will afford opportunity for the consideration, by medical gentlemen, of the propositions to be submitted to Parliament, which I will now state, not as suggestions of my own mind, but as the results which repeated conferences with yourself and other members of the Committee have matured and sanctioned.

The *first*, and perhaps the most important object we propose to contend for, is *the appointment of an additional Commissioner of the Medical Profession*, who shall act in concurrence with the other Commissioners in the decision of all questions connected with the medical relief of the poor, but who shall not vote, though he may attend, on other discussions. We neither propose to invest him with a share in the general powers of the Commissioners, nor with exclusive power in medical cases, but we are contented to leave to the discretion of the Board the degree of influence which he shall exert within his peculiar province; chiefly desiring that the feelings and the knowledge of the Medical Profession should have an appropriate organ to express them, and satisfied with the result which may thus be produced. The Medical Commissioner, who will be a physician or surgeon of five years' standing, will, however, have the especial duty of considering the medical returns from the various Unions, and of framing an annual report, to be appended to that of the general Commissioners, approved by them, and issued under their sanction. In order to enable him to present in that report a comprehensive view of the medical relations of the poor and their guardians, it will be proposed to compel every medical officer to transmit a report to him on or before Lady-day in every year, so as to allow him three months at least to digest the materials, before he will be required to report upon them.

Besides the security of a general supervision of medical relief resulting from the appointment of the additional Commissioner, there are *three specific objects* which it is proposed to submit to Parliament:—

1. The limitation of the extent of Medical Districts.

2. The ascertainment of certain limits of Medical Remuneration.

3. The Qualification of Medical Officers.

With respect to the extent of medical districts,—a matter of great importance to the interests of the poor, though comparatively indifferent to the medical profession,—it is proposed to enact that no district committed to the charge of a single officer shall embrace an area of more than sixteen square miles, or a population of more than five thousand persons; except in towns where the space allotted for a district being smaller, the population may be more numerous. In those cases, it is proposed that a district not more than four square miles may include six thousand inhabitants, and if not more than one square mile in area, a population of ten thousand. As the changes which will be necessary in established Unions to carry this provision into effect, will require time, we propose that a period of three years should be allowed for completing them, and that the districts shall be regulated on the principle

thus ascertained, by orders made under the common seal of the Commissioners.

On the subject of remuneration, while we yet think that certain limits should be set, beyond which it should not vary, we feel that it is desirable to leave considerable discretion in the hands of the Guardians. The extent of the district, the nature of the population, and the habits and even caprice of the neighbourhood, very naturally influence the feelings of Guardians, and expand or moderate the wishes of resident practitioners; and therefore the establishment by law of a *maximum* and *minimum* rate, seems the course best adapted to secure proper attendance for the sick without destroying the control of the local authorities. On this subject it should, however, be observed, that the minute of the Poor Law Commissioners of the 6th of June last, proposing a course whereby, at the commencement of each parochial year, a sum should be fixed as payment for attendance on the paupers then sick, while every case subsequently arising should be for at an ascertained charge, develops an improvement on existing practices so decided, that is possible, if it be efficiently carried out, that it may prevent the necessity of legislative inference on this point. The same minute contains a recommendation, which at all events it will be desirable to adopt—that the sum to be paid by each Union to its medical officer, shall be apportioned among the parishes according to the number of sick which each shall contain.

With respect to the qualification of medical officers, it is proposed to provide that no one shall be eligible to a future appointment unless he shall have practised for three years; that if he shall dispense medicines, he shall be a Licentiate of the Apothecaries' Company, and that whether he be a physician or an apothecary, he shall also be a member of the College of Surgeons. It is also proposed, that if the district shall contain a medical practitioner duly qualified, who has resided for six months within it, desirous of undertaking the trust, he shall be preferred to a stranger.

These provisions, I believe, comprise the final results of the communications with which I have been honoured by the Committee of your Association, as requisite to secure the objects in which the welfare and the honour of the Medical Profession are inseparably connected with the health and comfort of the poor. I once proposed to embody them for circulation in the form of clauses, but I have been induced to abstain from thus prosecuting them, by the uncertainty which exists whether the Government will next year propose a renewal of the powers of the Commissioners, or will make a new and permanent provision for the working of the system of relief; and, in the latter case, and while the spirit of the propositions to be submitted to the legislature would continue, their shape would undergo an entire change. It may also be hoped from that gratifying alteration in the tone of the Commissioners, which experience alone was required to produce, that some of the proposed alterations may be forestalled by Government, or that such a spirit of accommodation may be evinced, as shall render it expedient to consider how our objects may be attained with the least alloy of opportunities or struggle.

As it continues to be the wish of your Association that I should present their views to the House of Commons, I shall place a notice forthwith in the book of my purpose,* on the introduction of the bill of next year, to call the attention of the House to the subject of medical relief, with a view to introduce clauses amending the law respecting it; and shall, if necessary, follow up that notice by moving an instruction to the committee at the proper season. Most happy, however, shall I be, when the time for renewing the discussion shall arrive, to find the duties of your advocates in the legislature assume the humbler form of suggesting and aiding the awakened wishes of Government to do justice to your profession and to the afflicted poor, rather than compelling a hostile presentment of their own plan, which, if won by contest, would lose all its grace, and much of its value.

I remain, my dear Sir,
Your obedient and faithful servant,
T. N. Talfourd.

To H. W. Rumsey, Esq.,
Secretary to the Poor Law Committee.

GENERAL DISPENSARY,
ALDERSGATE STREET.

To the Editor of the Medical Gazette.

Sir,

A letter having appeared in the Medical Gazette of the 14th inst., signed "John H. Houghton," and annexing the copy of a note from me, as the Collector to the above institution, I feel called upon, in consequence of the unfounded insinuation contained in Mr. Houghton's letter, to state the circumstances under which my note was written.

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* The notice was accordingly given to the House by Mr. Serjeant Talfourd in his place on August 17th.

There were seven candidates for the vacant office of Apothecary to the institution, and all of them, with the exception of Mr. Houghton and another, having inquired of me the latest hour up to which I could receive subscriptions from their friends, so as to entitle them to vote at the then ensuing election, I named nine o'clock in the evening of the 28th August; and in order that no misunderstanding might arise, I wrote the note above referred to, to each of the candidates.

I beg to add, that my note was written solely in *answer* to the inquiry made of me by several of the candidates, and not for any such purpose as is insinuated in Mr. Houghton's letter, and that I wrote without the sanction or *even knowledge* of any member of the committee, or any officer of the Institution.

I shall feel obliged by your insertion of this in your next publication, and remain

Your obedient servant,

H. Piper.

85, Aldersgate Street,
17 Sept. 1839.

[It appears, therefore, that the Aldersgate Street Dispensary is not so black as it is painted; the candidates are not asked to buy themselves in, but if they wish to do so, they are just informed of the latest hour when they may empty their purses. We fully exposed this system, at the same place, six years ago. Dispensaries are certainly among the worst managed institutions in London, and that of Aldersgate Street will not raise the reputation of the genus.—Ed. Gaz.]

MUSCULAR COATS OF THE EXCRETORY DUCTS.

G. H. Meyer has published an examination of the muscular layer of the excretory ducts of glands. He used for this purpose a galvanic column of 50 pairs of plates. The gall-bladder contracted between the wires to a fourth of its previous diameter; the ureters also evidently contracted, and the vasa deferentia and vesiculæ seminales, both with galvanic and mechanical stimuli.

In the gall-bladder of the sheep and the ureters of the horse, there are different layers of reddish-yellow fibres, which in microscopic characters agree exactly with the organic muscular fibres. Their course appears more evidently after they have been boiled. After 24 hours' boiling some gelatine is obtained, probably from the cellular tissue and the remains of the mucous membrane.

The ureters consist of three muscular layers—an external and an internal, of longitudinal fibres, and a layer between them of circular fibres; the external layer arises from the urinary bladder with strong fasciculi, which become finer towards the kidneys. In the middle circular layer, the fibres lie closer together, and have a resemblance to the middle arterial coat, though they are not of an elastic nature. The fasciculi of the inner layer are more connected, and project somewhat internally.

The gall-bladder receives two fasciculi of long intestinal fibres from the intestine, which pass into its outer layer; below these there is a second series of stronger circular fibres, which again covers an obliquely placed layer. Lastly, there is the undermost layer, which consists of longitudinal fibres. It is the same in the shark; two muscular fasciculi, ascending from the intestine to the ductus choledochus, divide on the gall-bladder, and part ascend even up the hepatic duct.—*Müller's Archiv. Jahresbericht*, p. xcviii.

POISONOUS WINE.

It was recently reported that the crew of the Asie, merchantman of Cherbourg, had suffered under the effects of poison during a voyage to South America. This vessel is now at Marseilles, and it appears that the statement was only partially true. Several of the officers were poisoned, and the captain, after a long illness, has just died in that city. The two mates are still very ill, but hopes are entertained of saving them. This misfortune is attributable to the use of some hermitage, several cases of which had been purchased at Monte Video, in 1838, for the Captain's table, and into which it appears there had been put, according to the culpable practice adopted by some of the dealers in that wine, a quantity of litharge or oxide of lead to correct its acidity. The chemists of Gibraltar, where the Asie had stopped, have given this opinion, and in order to ascertain the truth, a chemical analysis of the wine, and a post-mortem examination of the captain's body, have been ordered to take place at Marseilles. *Times* of Sept. 18th, from *Galignani's Messenger.*

VOLUNTARY MUTILATION.

Private in——regt. to which the author belonged, was one morning dividing the meat for the different messes of a company, when he cut off the thumb of the left hand. The mutilation was stated to be the result of accident, but when the amputated portion of the thumb was examined, a deep incision was found in it, obviously shewing that the amputation must have been voluntary, and that it had not been accomplished by the first stroke of the cleaver.—*Marshall on Enlisting, &c. Soldiers.*

ORIGIN OF WHEAT.

At the sitting of the Academy of Sciences on the 12th of August, M. A. de St. Hilaire read a note on the genera *Ægilops* and *triticum*. Some botanists have supposed, from the extreme resemblance of the fruit of the ægilops to the grains of cultivated wheat, that the latter is only an ægilops modified by cultivation. M. Esprit Fabre, whose excellent observations on the fructification of the marsilea are known to every botanist, having found some plants of the ægilops triticoïdes in the neighbourhood of Agde, last year, has sown the fruit in his garden, and has obtained a plant in which the characters of the ægilops have almost entirely disappeared and made room for those of the triticum. M. Fabre proposes next year to sow the grains collected this one, and to continue the observations which he has begun.—*Gazette Médicale*, Aug. 17th 1839.

CURE OF APHONIA BY AMMONIACAL VAPOURS.

A young lady was affected, in consequence of a cold, with complete loss of voice, which had already existed three months, notwithstanding all the remedies which were tried. Dr. Gerner, supposing the cause of the affection to be a relaxed state of the mucous membrane of the trachea, at last cured the patient completely in three days by the inhalation of ammoniacal vapours, disengaged from a mixture of a solution of muriate of ammonia and carbonate of potass. —*Zeitschrift für die ges. Med. and Br. & For. Med. Rev.* July, 1839.

CLOT BEY.

Clot Bey, first physician to Mehemet Ali, has lately been created, by the Pope, Commander of the Order of Gregory the Great.

BOOKS RECEIVED FOR REVIEW.

Illustrations of the Comparative Anatomy of the Nervous System. By Joseph Swan. Part V.

Illustrations of Cutaneous Disease.—A Series of Delineations of the Affections of the Skin in their more interesting and frequent forms; with a Practical Summary of their Symptoms, Diagnosis, and Treatment, including appropriate Formulæ. By Robert Willis, M.D. &c. Parts 4, 5, 7, 8, and 9.

Laws of the Parisian Medical Society, established Nov. 30, 1837.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Sept. 12, 1839.

John Daniel Brown, Standgate Creek, Kent.

Thursday, Sept. 19, 1839.

Henry James Paine, Canterbury.—George Wilkinson, Sunderland.—Harry Adkins, Warwick.—Thomas Lyle, Plymouth.—James Hall, Preston.—John Bluett.—George Whitehead, Sheffield.—William Carter, Hoffmeister, Portsmouth.—John Birks, Bramptowenle, Merthen, York.—Alfred Jones, Havre de Grace.

WEEKLY ACCOUNT OF BURIALS.

From Bills of Mortality, *Sept.* 17, 1839.

Abscess	1	Hooping Cough	6
Age and Debility	19	Inflammation	5
Apoplexy	6	Bowels & Stomach	4
Asthma	8	Brain	2
Cancer	2	Lungs and Pleura	1
Childbirth	5	Insanity	3
Consumption	34	Measles	4
Convulsions	18	Paralysis	1
Dentition	5	Small-pox	1
Diarrhœa	3	Spasm	1
Dropsy	4	Stone and Gravel	1
Dropsy in the Brain	2	Tumor	1
Epilepsy	1	Unknown Causes	57
Fever	12		
Fever, Scarlet	8	Casualties	2
Hæmorrhage	2		

Increase of Burials, as compared with the preceding week . . . 14

METEOROLOGICAL JOURNAL.

Kept at Edmonton, *Latitude* 51° 37′ 32″ *N. Longitude* 0° 3′ 51″ W. *of Greenwich.*

Sept.	Thermometer.	Barometer.
Thursday 5	from 48 to 65	29·83 to 29 82
Friday 6	52 67	29·92 29·95
Saturday 7	49 64	29 86 29·72
Sunday 8	51 66	29·86 30·00
Monday 9	59 70	29·94 Stat.
Tuesday 10	55 72	29·93 30 04
Wednesday 11	59 70	29·96 29·95
Thursday 12	from 57 to 64	29·75 to 29·66
Friday 13	43 70	29·62 29·41
Saturday 14	50 63	29·18 29·08
Sunday 15	52 61	29·08 29 24
Monday 16	51 66	29·27 27·35
Tuesday 17	51 58	29·46 29·42
Wednesday 18	45 58	29·43 29·50

Prevailing wind, S.W.

Except the 6th, 9th, and 13th, generally cloudy, with frequent and heavy showers of rain.

Rain fallen, 1 inch and ·8375 of an inch.

Charles Henry Adams.

NOTICE.

Communications have been received from Dr. R. Lee, Mr. Aspland, and Mr. Lyford.

W. Ogilvy, Printer, 57, Skinner Street, London.

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